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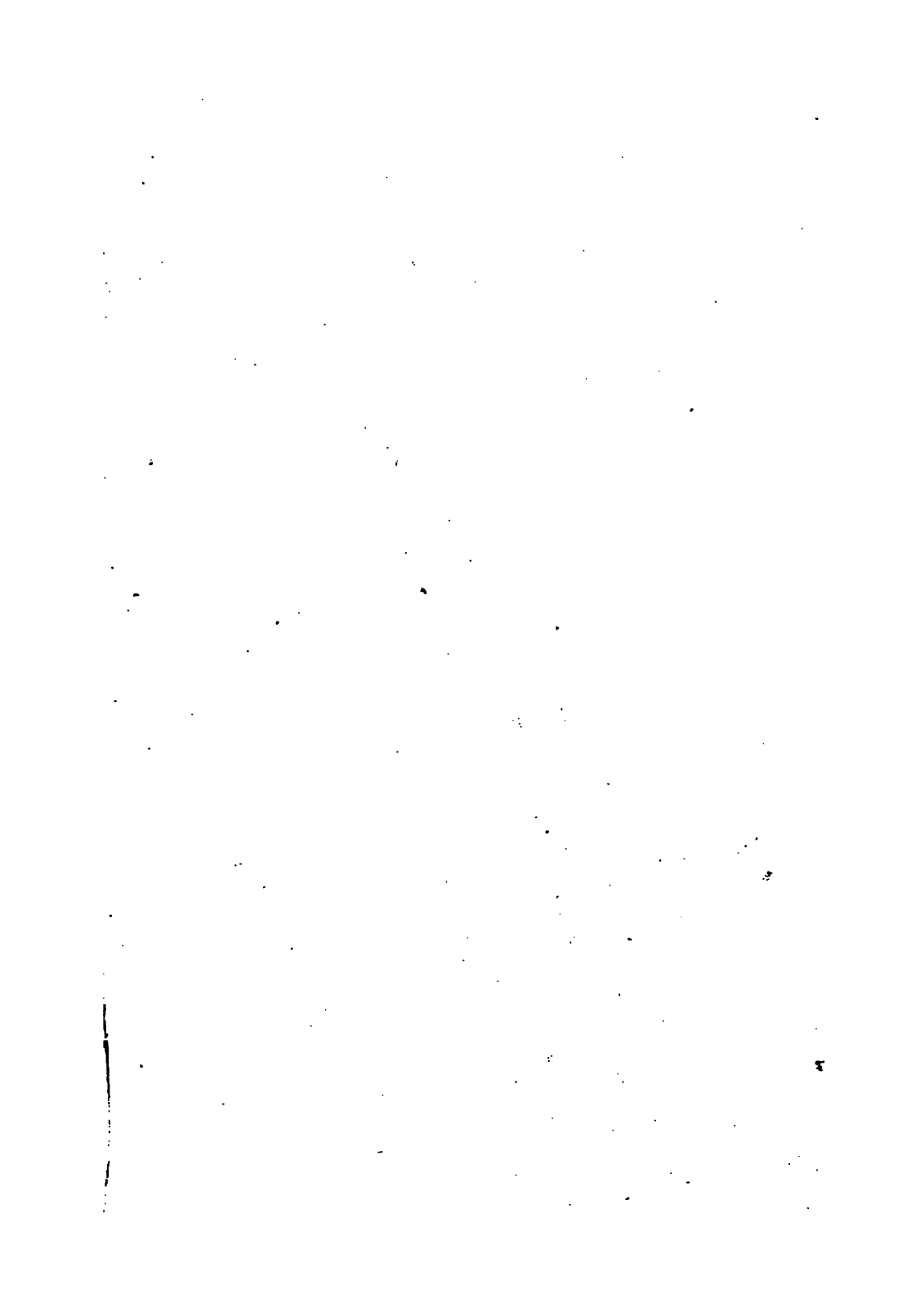
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5. Write your (real or assumed) name on each separate paper. 6. Always let your communications be accompanied by your name and address. For publication you may adopt any signature you please.

Thanks—Aaron Smith; Labournam; J. B. Anderson; Hurd; A. Priestly; Stratton; H. Ross; Ivanhoe; Jack; Maria Evert; J. Denham; Duorp; J. N. Hobbs; Scheberrazade; Eloy; Mars; J. E. Walker; J. Poplewell; H. M. Mansell; Mynydd Celyn; Black Robin; G. Mapp; W. G. W.; C. F. Redman; Ellen; Sapere Aude; Apollo; Frank; C. Ashen; Alphonso; Llano; Tet; Mars; Lizzie C.; Spes; E. S. A. M.; Unknown; W. Oakes; The Violet; Received:—Labournam; G. N. Hilder; T. Bowker; Granus Peltronus; Scheberrazade; H. M. Mansell; Lionel; R. McAuley; J. Williams; A. Higginbottom; W. G. W.; Harry; Frank; Llano; Tet; Cousin Jack; Mars; Lizzie C.; C. Earle; Urban; Cae bach; J. Dimsdale; G. Whately; R. James; G. M. Sharp; T. H. Twist; Louise.

ANSWERS TO CORRESPONDENTS.

Two Years in One (Try).—The Inspectors are rather chary about it. Much depends upon circumstances; for instance—your age, your ability, your duties at the school in which you are engaged, &c.

Short Hand (H. Kool).—We learnt Odell's system many years ago, and afterwards modified it by so many other systems, and by plans of our own, that we can hardly speak decidedly and impartially as to the relative merits of the rival systems. Perhaps some of our friends will favour us with their experience on the subject.

Jane Wharton.—A Wesleyan Methodist wishes for the address of this young lady. We beg to inform him, that we do not give up the name or the address of any correspondent unless by express permission. If Miss Wharton herself writes to us, giving her consent, our Wesleyan Methodist friend shall hear from us; if not, he will of course excuse us. We may as well remark, that if Miss Wharton withhold her sanction, especially as our correspondent does not tell us why he wants her address, no one can blame her.

Partiality (Labournam).—1. Allow us to assure you, that we regard contributions simply on their merits. We have nothing to do with the religious creed of our correspondents. 2. You cannot reasonably expect us to insert your contributions when you forward them in a form contrary to our regulations—regulations which are printed in every number. 3. The reason why your question hand until our number was ready for the press. 4. To your question, No. 5, it happened that a contribution of yours was in the hands of the printer at the time you wrote the letter now before us.

SPECIAL NOTICE TO SUBSCRIBERS.

Some of our subscribers are in arrears with their remittances. We hope they will be prompt in forwarding arrears, with the amount for next year's subscription, as early in December as possible. The Subscription for the Pupil-Teacher, post-free for one year, is at the following rates:—

One copy, post-free, 36 stamps.
Two copies, post-free, 5s. or 60 stamps.
Three copies, post-free, 7s. or 84 stamps.
Four copies, post-free, 8s.

Six copies, post-free, 12s.

Remittances in stamps, or Post-office orders, to be sent at once to the publisher, George Job Stevenson, 54, Paternoster Row.

[Cases for the new volume are now ready, One Shilling each.]

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PREFACE.

SUCCESS is, or it ought to be, an incentive to perseverance, for success like all other earthly good, is, at the best, but an approximation. Pupil-teachers can readily understand this. There will not be one amongst those who succeed well at the Examination, who will not after first excitement subsides, reflect that he might in some subjects have succeeded better. Even if he succeed beyond his expectation, he will not be quite satisfied with himself: he will regret opportunities lost or not improved as they might have been, and he will probably console himself with the determination to commence the next stage of his career with more energy, and to continue it more perseveringly. The most successful will not be able to avoid a doubt—transient though it may be—as to the future. He may even fear that his progress will not keep pace with his reasonable aspirations. Yet, withal, he may be truly thankful that the past has been so far propitious, and cheerfully hope that it may be regarded as an earnest of the future.

We are fortunate in our connexion with those who can so fully sympathize with us in the performance of the pleasurable duty which now devolves upon us, namely, that of bringing our year's labour to a close, by prefatory remarks to our third volume.

We are not satisfied with ourselves, but we have succeeded to the full extent of our anticipations. We are not aware that we have lost any friends except by death, we are assured that we have gained many, who have rendered us service for which we cannot be too thankful. Our periodical has certainly not deteriorated in any respect. How far it has improved we must leave to its friends and supporters to decide.

It were mere affectation to deny that the PUPIL TEACHER has increased, and is still increasing, in interest and usefulness; to deny it were to do injustice to those who have so materially assisted us in our endeavours to render it what we wish it to be. Still we are not satisfied, we perceive clearly that there is considerable room for improvements; and those improvements are, we believe, not only desirable but practicable also.

Our desires for progress and improvement are the best guarantees that our next volume will be superior to this.

We have to thank our friends not only for the assistance which they have rendered to us by their contributions, but for their many encouraging letters, and for their kind indulgence in various ways. The difficulty of pleasing thousands of readers, who, although engaged in the same profession, are to some extent necessarily disunited by denominational differences, party prejudices, national jealousies, and other causes, has been recognized by our young friends in a manner which is well worthy of imitation by those who pretend to greater knowledge of men and things.

We have striven, and we shall still strive, to promote good feeling amongst Teachers of all grades and of all denominations. Editorially speaking, we recognize no denominational party, or national differences. In fact, amongst those whom we esteem most highly are those from whom, on some points—and those of primary importance too—we most widely differ.

Our endeavours to be of use to Pupil-teachers have, during the past year, been eminently successful. Every month we have received letters which have been as gratifying to us as the most valuable public testimonial could be. Indeed, more so; for many subscribe to a public testimonial at the instigation of others, whilst individual and spontaneous acknowledgments of the services which we have been enabled to render, are more convincing proof that they are something more than mere compliments.

Many of our warmest friends will, ere our next volume be commenced, cease to be numbered amongst Pupil-teachers, but we sincerely hope that they will still keep up their connexion with us. We are sure that those whose term of apprenticeship is unexpired, will influence those who join their ranks to support the PUPIL-TEACHER in every way in their power.

To the numerous school-managers, masters, and mistresses, who have co-operated with us, and encouraged us during the past year, we return our sincerest acknowledgments; and we are sure that we may thank them on behalf of the Pupil-teachers also. It is no small satisfaction to us to find that the friends of those for whom our publication is especially designed, not only approve, but also make known their approval of our manner of conducting our little work.

Once more we thank our many friends; we congratulate *them* on *our* success, and most sincerely we wish them “A merry Christmas and a happy New Year.”

London, December, 1860.

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THE PUPIL-TEACHER.

THE NEW YEAR.

READER, a Happy New Year to you, whoever you are, whatever you are, and wherever you are! This is the first time that we, in our present capacity, have had the pleasure of thus saluting you; nevertheless, with all the cordiality of hale old Friendship, we congratulate you on having been spared, with us, to see "the old year out and the new year in;" with all the cordiality of hale old Friendship, we wish you—A HAPPY NEW YEAR!

The past! Who can reflect on it without emotion? If any can, we envy him not. He cannot be "too good for this world;" he cannot but be too bad for a better. Yet many thousands, nay, tens of thousands, talk of the past as though it were a stranger whom they had fortuitously met in the great pathway of life, and as though, after keeping company with it for a while, they had parted with it at a "turning," merely, at the last, bidding it a complimentary farewell. Practically they ignore the fact, that they are "in account" with it—that it is their creditor to an incalculable amount; an amount of which they can never, unaided, pay even the interest! Lightly they *talk* of the past; they do not now *reflect* on it. What a subject for serious reflection is this! But more. Earnestly do we hope, that each one who peruses these pages is of the number who *do* reflect, frequently and well, on the past—not only in the abstract, but as an important personal affair, with direct reference to his own individuality. To this, reflection must inevitably lead; and, oh! what a motley crowd of thoughts it brings! What a variety do the "chambers of imagery" present! Few amongst us there are, who, with the mind's penetrating eye, can look callously into those chambers. For *there* are the incidents in which we bore the conspicuous part, re-acted with, it may be, more than wished-for faithfulness; *there* we see the dear ones who are "where the wicked cease from troubling," and where "the weary are at rest;" *there* we see those from whom distance or other hindrance separates us—perhaps—though the fond heart says "No!"—yet, perhaps, for ever; *there* we see the friend whom we have ill requited, and *there* the one to whom we *might* have been a friend—a "neighbour," a good Samaritan.

We are homiletic in spite of ourselves. Far be it from us to wish to cast even a shade of sadness o'er the buoyant spirits of those for whom we write. But we write for those who have a high and holy mission to fulfil—for those for whom reflection is specially profitable—for those whose example *must* teach—and *should* teach, in a manner pleasing to the good, and reproving to the evil. We write for those amongst whom are many who will endeavour to make such a season as this the starting-point of a course more consistent with their profession, more consonant with their

better feelings, and more conducive to their own good, and to the good of others. May He who puts into their hearts good desires, enable them to bring the same to good effect!

It is not religion, but the absence of it, that makes people dull, or that drives them to courses which afford no solid pleasure. It has often been said—and said truly—that youth is the spring-time of life. Spring-time! How cheerful it sounds! Spring-time! Youth! The ideas seem inseparable; and the idea of cheerfulness inseparable from them both.

Enjoy life, dear young friends; enjoy it as much as you can. To the giddiest amongst you we say, may your troubles in life be as light as your hearts are now. But take care—be merry and *wise*; and remember whence true wisdom comes, and how it is to be obtained. To the most “serious” amongst you we would say, in the words of the wise man, “Be not righteous overmuch;” do not mis-comprehend this injunction. You cannot be “over-scrupulous” about doing wrong: you cannot be good enough—to say nothing about being *too* good. But sanctimoniousness is not sanctity. A demure countenance is not a sure index of a well-regulated mind and of an exemplary life. Keep a good conscience, and you will rarely have a heavy heart; and “a merry heart maketh a cheerful countenance.”

Now, a few words about good resolutions. Time would fail us, and our limited space forbids us, even to enumerate the cases to which your good resolutions—the good resolutions which you made at the close of last year—referred. But we cannot forbear saying a few words for ourselves. We hope that in your consideration of the *Future Plans*, of which we spoke last month, you did not forget the *Pupil-Teacher*. Whether you are still actively engaged in the teaching service, or whether you are students in Training Colleges, we ask your assistance. The experience of the last half-year warrants us in believing that we shall not ask in vain. We have only to repeat, that it shall be our constant aim to make our periodical more and more attractive and useful.

OUR PROGRAMME.

I. Introduction.—In order that there may be no mistake about the plan on which we propose for the future to conduct this work, we shall state, as briefly as is consistent with perspicuity, how each part is to be managed. This will, we trust, be not only satisfactory “to all whom it may concern,” but also useful as a guide to those who are willing to co-operate with us.

Completeness.—We desire that the volume, of which this is the first number, shall, at the commencement of next year, present more completeness in itself than is usually found in similar works. To this end we shall obviate, as much as possible, the necessity for constant reference to the second volume. Our plan is apparent in the present number; we therefore need not describe it. It will, we hope, prove a great recommendation to

New Subscribers.—They need not, until quite convenient to themselves, obtain the two volumes already completed. So far as editorial

arrangement is concerned, this number may be regarded, not only as the first of a new volume, but also as the first of a new work.

Principles.—The principle on which the *Pupil-Teacher* was established we shall seek to maintain. We are not the organ of any particular religious, political, or educational creed. We would say a few words, emphatically, with reference to

Religion.—The great majority of our subscribers belong to Protestant communions—Episcopalian and Non-conforming; but a very large number are Roman Catholics. We must respect the feelings of all. "Notes on the Reformation," or on any other subject pertaining to polemics, must have no place in our pages. We might say much on this subject, but it is not necessary. We are all agreed upon the great importance of giving children religious instruction, but we differ on doctrinal points, and we agree to differ. Those who are controversially inclined can "fight it out"—but not in our pages.

Contributions.—As hath been often said, and more often printed, "No notice can be taken of anonymous communications. Whatever is intended for insertion must be authenticated by the name and address of the writer; not necessarily for publication, but as a guarantee of good faith."

Notes and Queries.—This is an increasingly attractive feature of our periodical, and it shall receive our increased attention. We have arranged so that each number shall contain new notes and new queries. We shall not confine ourselves to numerical order with regard to the solutions, notes, answers, &c.; but our plan of reference to the query will prevent confusion.

The Editor's Exercises will afford useful notes to experienced teachers, as well as invaluable instruction to those who are preparing to become schoolmasters and schoolmistresses. Each number will contain a fresh supply.

Recreative Exercises will, we think, prove an attractive feature. We have only to caution our young friends against plagiarism; and to remind them, that we cannot afford much space for this amusing department.

The Editor's Council has been of great use to many. Inconsiderate and selfish grumblers have availed themselves of it to publish their grievances. But, verily, they have their reward. Better it is that five foolish fellows should make known their folly, than that one faithful but ill-used Pupil-teacher should have no means of calling attention to abuses that exist in many schools under Government inspection. It is amusing to find how

"Many a shaft at random sent
Finds mark the archer never meant."

The Editor's Council has revealed the fact, that a crying evil in regard to an individual school is but the type of similar evils in many others. The caps often fit but too well those for whom they were not designed. Whilst we deplore, on the one hand, the paltry spirit of some of the Pupil-teachers who appeal to our Council, on the other hand, we deplore the undignified manner in which some managers, masters, and mistresses would banter words with those to whom they should set an example of

courtesy, moderation, and dignified forbearance. Much that, in the last year, was sent for our Council we were obliged to decline publishing, on account of the evident bad spirit in which it was written. We sincerely hope that the Editor's Council will have, in future more interesting topics of school-management to discuss, than those which paltry squabbles, such as we might mention, can possibly afford.

Criticism and Corrections.—It is not difficult, even to readers with but little knowledge of English composition, to discover whether what he is reading is the production of an inexperienced writer, or of an amateur. The "something" is sure to mark the difference. Now the amateur writers who contribute to our pages are, chiefly, Pupil-teachers—young persons anxious to learn much and to teach well. Their contributions are trials of their intellectual strength. Criticisms from masters and mistresses, or fellow Pupil-teachers, are requested. But they should be judiciously written; a smart critique is entertaining as well as instructive; but there is a difference between smartness and waspishness; between humour and satire. Most young teachers—even those remarkable for diffidence—have a certain kind of pedagogic self-importance which is peculiarly sensitive. They can bear to have their blunders and faults laughed at—they can not bear to be ridiculed. Let those who criticise do so as though they were criticising what their dearest friends have written; let them do so courteously, impartially, and briefly. We have occasionally received five or six full-charged pages of "foolscap," containing a criticism on a fault which, if worth mentioning at all, might be dealt with in half-a-dozen lines.

Assumed Names.—The *Pupil-Teacher*, as now conducted, differs from every other periodical that has come under our notice. Our great aim is to *educate*—to draw out the intellectual faculties of Pupil-teachers. We could write an article or a lesson on a given subject in one-sixth of the time that it takes us to examine the papers sent by our contributors, to select the *best one* from, perhaps, thirty; or to select and *arrange the best six*, from sixty, or even upwards of a hundred. But our periodical would be less interesting and less useful. We wish as many persons as possible to assist in, and contribute to, each number. It will greatly facilitate our work if our regular correspondents will either allow their names to appear, or else adopt some signature which we may appropriate to them solely and permanently. In one month we had no fewer than eight *Alphas*—two clergymen, one master, one mistress, three male P. T.'s, and a female P. T. We need not say much about the confusion which is likely to arise in such cases. We beg to direct attention to our note "*Assumed Names*," in our "NOTES TO CORRESPONDENTS."

Notices of Books.—From what we have observed on the subject of "religion," it will readily be perceived that religious works, however good in their way, cannot be noticed by us in a manner in which it is customary to notice them. In our editorial capacity we are *catholic*, but we belong neither to the Romish nor to the Anglican Church; we are neither "Popish" nor "Protestant," neither Episcopalians nor Nonconformists; in short, we identify ourselves with no religious denomination or party. If any work sent to us for notice has *distinctive* religious

teaching, we shall notice it; but as the publishers' names are generally a fair guide to the religious or political tendency of works which necessarily touch on religion or politics, we confine ourselves mainly to educational or literary features.

Method of Asking or Answering Questions.—We beg to call special attention to our hints on this subject in our NOTES TO CORRESPONDENTS; and we are compelled to come to the determination to *reject* all communications which are not forwarded to us in the required form. Some correspondents have sent us papers which must have occupied them many hours, and which, had they been sent in the proper form, would have been published. It is impossible to attend to five or six, or even to two or three subjects at once. We arrange all communications according to subject, and those which are on a variety of subjects, and written so that they cannot be properly arranged, are thrown aside.

BATTLES, &c., IN JANUARY.

ARRANGED by the Editor from the six best lists, supplied up to December 14th, 1859:—James Rider (*a*); Ebenezer Turner (*b*); Anglo-Saxon (*c*); Urban (*d*); Matilda (*e*); G. T. (*f*).

Those marked thus (*) are mentioned by all. Those marked thus (†) are omitted by all.

1st.	3rd.
1495 Charles VIII. entered Rome, <i>a, b</i>	456 a.c. Battle of Cænophyta †
1660 Monk entered England, <i>a, b, c</i>	1741 Surrender of Breslau, <i>a, b, d</i>
1586 Battle of St. Domingo, <i>a</i>	1798 Capture of "the George" by the Sp. <i>c</i>
1757 Recapture of Calcutta, <i>a, b, f</i>	1805 Siege of Bhurtpore by the British, <i>a</i>
1794 Battle of La Vendee, <i>c, d</i>	1826 War between Brazil and Buenos Ayres commenced, <i>b</i>
1801 Passage of the Adige, <i>b</i>	1826 Bhurtpore stormed, <i>b</i>
1807 Capture of Curagao by the British, <i>a, b, c, e</i>	1840 Expedition against Khiva, <i>c</i>
1814 Surrender of Dantzic, <i>b, c</i>	1848 Revolution of the Milanese, <i>a, b</i>
1820 Revolution in Spain began, <i>a, b, c, f</i>	1858 Capture of Myhere Fort, <i>a</i>
1821 Revolution in Brazil, <i>a, b, c, d, e</i>	1849 Comora invested by Austria, <i>b</i>
1822 Declaration of Greek Independence, <i>b, d</i>	4th.
1828 Conspiracy in Mexico, <i>a, b</i>	1423 Capture of Menlan by the French †
1856 Destruction of Docks at Sebastopol, <i>a</i>	1762 War declared against Spain, <i>a, b, c, d, e</i>
2nd.	1807 Capture of Nice by the French, <i>a</i>
1492 Capture of Grenada by Ferdinand V., <i>c, d, e</i>	1832 Insurrection at Trinidad, <i>c</i>
1757 Recapture of Calcutta, <i>a, b, c</i>	1852 Blockade of Irrawady, <i>a, b, d</i>
1811 Capture of Tortosa, by Suchet, <i>a, b, c, d, e</i>	1856 Retreat of Omer Pasha, <i>a</i>
1814 Surrender of Dantzic, <i>a</i>	1857 The "Thistle" mass. (China) <i>a</i>
1834 Defeat of Marino, <i>a, b, d, c</i>	1858 Capture of Futteyghur by the British, <i>a</i>
1840 Battle of Thursouka, <i>b</i>	5th.
1849 Battle of Thursouka, <i>a, c, d, e</i>	1477 Battle of Nancy, <i>a, b, d, f</i>
1849 Capture of Moulton, <i>a, b, c, d, e</i>	1601 Battle of Kinsale, <i>f</i>
1849 Passage of the Waag, <i>a, d, e</i>	1795 Capture of the "Duquesne" by the British, <i>a</i>
1856 Destruction of Centre Dock of Sebastopol, <i>a</i>	
1858 Battle of the Kalee Nuddee, <i>a</i>	

- 1797 Capture of the "Tartar" by the British, *a*
 1807 Surrend. of Breslau to the French, *c*
 1837 Capture of City of Barcelona, *a, b*
 1838 Defeat of Canadian Rebellion, by Sir F. Head, *b*
 1849 Capture of Pesth, *a, b, c, d, e*
 1849 Retreat of Kossuth, *a, b*
 1851 Rosbach entered, *b* (Rastadt taken, *c*)
 1854 Chinese attack on Shanghai, *a*
- 6th.
 1578 Battle of Rimenant, *a*
 1781 Defeat of the French in Jersey, *a, b*
 1781 Battle of St. Helier, *c, d, e*
 1814 Capture of the "Ceres," by the British, *a*
 1842 Mass. and evac. of Cabool, *a, b*
 1847 Battle of Friburg, *a, b*
 1851 Hanover entered, *b*
 1853 Battle of Aeng Pass, *a, b*
 1853 Battle of Czitate, *b* (1854, *c, d, e*)
 1853 Revolution in Mexico, *a*
 1858 Capture of Rewa, *a*
 1859 Rowa at. by the British, *a*
- 7th.
 1558 Capture of Calais by the French *
 1794 Capture of the "Moselle" by the French, *b*
 1807 Surrender of Breslau, *b*
 1847 Oporto entered by Das Autas, *a, b, d*
 1851 Battle of Fort Beaufort, *a, b*
 1853 Russian Invasion of Turkey, *a, b*
 1858 Capture of Bocca Tigris (China) *a, b*
- 8th.
 1258 Capture of Bagdad by the Tartars †
 1578 Battle of Genblours, *a*
 1649 Retr. of Fairfax, *a*
 1780 Rodney's Victory off St. Vincent, *a, b, c, d, f*
 1800 Battle of Novi, *c*
 1806 Capture of Cape of Good Hope, *b, d, e*
 1807 Siege of Breslau began, *c*
 1812 Ciudad Rodrigo invested by British *
 1815 Battle of New Orleans *
 1821 Naples invested by Austria, *b*
 1831 Insurrection at Gottingen, *a, b*
 1842 Defeat of Europeans by the Affghans, *a, c, d*
- 9th.
 1712 Altona burnt by the Swedes †
 1715 Pretender entered Perth
 1791 Battle of Cananore, *a, b*
 1897 Surrender of Kehl, *a, b*
 1806 Defeat of Gen. Janssens *b*
 D. Baird, *d* (see 8th)
- 1812 Capture of Valentia by Suchet, *a, b, c, e, f*
 1841 Capture of Brogue Fort, *a, b*
 1849 War in Hungary began
 1851 Bavarians evac. Hesse, *a, b*
 1854 Siege of Kalafat raised, *c, d*
- 10th.
 1760 Battle of Wandawash, *c*
 1800 War of La Vendee ended, *c*
 1837 Capture of Bourbon and Mauritius, *b*
 1841 Insurrection at Argovia, *a, b*
 1849 Capture of Attock by the Affghans, *a, b*
 1852 Destruction of Rangoon Batteries, *a, b*
- 11th.
 1652 Surrender of Barbadoes to the British, *d, f*
 1782 Capture of Trincomalee, †
 1795 Battle of Heussen, *a*
 1801 Pass of the Brenta, *a, b*
 1809 Corunna occupied by Sir J. Moore, *b, c, d*
 1825 Surrender of Colocotroni to the Greeks, *b*
 1846 Defeat of the New Zealanders, *a, b*
- 12th.
 1814 Siege of Dantzic raised, *d*
 1814 Battle of Breda, *a, b*
 1848 Rebellion at Palermo, *a, b*
 1848 Insurrection in Sicily, *a*
 1856 Vienna evacuated by the French, *d, e*
 1857 Bombardment of Canton, *b*
 1858 Defeat of Sepoys by Outram, *a*
- 13th.
 1392 Delhi pillaged by Tamerlane, †
 1809 Battle of Jarasena, *a, b*
 1849 Chilliawalla, *
 1849 Jhellum, *a, b*
- 14th.
 1797 Battle of Rivolé, *a, b, d*
 1809 Battle of Corunna, *a, b* (see 16th)
 1809 Retreat of English from Salamis, *a, b*
 1814 Battle of Bayonne, *d*
- 15th.
 1641 Invasion of England by the Scots, *d* (1644, *a*)
 1644 Battle of Nantwich, *a, b*
 1746 Battle of Falkirk, *b*
 1761 Capture of Pondicherry, *b, d, f*
 1806 Retreat of the King of Naples to Sicily, *b*
 1808 Siege of Saragosa began, *

1815 Capture of U.S. ship "President," *b*

1846 Pass of the Sutlej, *a*

1859 Battle of Rissade, *c, e*

16th.

1761 Capture of Pondicherry, *a, b*

1780 Rodney's Victory off Cape St. Vincent, * (*a*, 1779)

1809 Battle of Corunna, *b, c, d, e, f*

1829 Portuguese vessels attacked at Terceira, *a, b*

1831 Gottingen insurrection quelled, *b*

1849 Battle of Barea Doub, *a, b*

1858 Defeat of Sepoys by Outram, *a*

1859 Battle of Boshia, *d*

17th.

1495 Rome entered by Chas. *a*

1646 Capture of Dartmouth, *d, e*

1746 Battle of Falkirk, *a, b*

1775 Capture of Charlestown, *c*

1781 Capture of Calawba, *a, b*

1835 Revolt at Madrid, *a, b*

1851 Austrians cross the Elbe, *a, b*

1843 Defeat of the Ameers by British, *a*

18th.

1646 Capture of Dartmouth, *a, b* (see 17th)

1715 Capture of Luxembourg, *d*

1715 Capture of Limburg, *d, e*

1746 Battle of Falkirk, *c*

1756 Capture of Calcutta by Dowla, *b*

1762 War declared by Spain against England, *b, d*

1795 Battle of Nantes, *c*

1795 Entry of the French into Amsterdam, *c*

1804 Capture of Goree, *a, b*

1806 Capture of Cape of Good Hope, *a, b*

1826 Bhurtpore stormed, *a, b, c, d, e*

1850 Bombardment of Peraus Harbour, *c*

19th.

1312 Perth destroyed by Robert Bruce, *d*

1419 Surrender of Rouen, *a, b*

1420 Entry of Henry V. of England into Rouen, *d*

1644 Invasion of England by the Scots, *a, b*

1795 Capture of Amsterdam, *a*

1795 Capture of Pichegrue, *b*

1798 Rebellion in Ireland, *a, b*

1804 Surrender of St. Domingo, *c*

1812 Capture of Ciudad Rodrigo, *a, b, c, e, f*

1814 Capture of Dijon, *a*

1846 Surrender of New Zealanders, *a*

1851 Insurrection in Berne Oberland, *a, b*

1853 Grahovo stormed, *a, b*

20th.

1806 Capture of French squadron by Duckworth, *a, b*

1814 Capture of the "Alcemene" by the British, *a*

1826 Battle of Maloun, *b, c, d*

1839 Battle of Yungay, *b*

1839 Occupation of Aden, *a, b*

1841 Capture of Hong Kong, *a* (1842, *e*)

1843 Capture of Hyderabad, *a*

1851 Battle of Interlaken, *a*

1859 Siege of Awah by the British, *a*

21st.

1511 Siege of Mirandola, *b*

1643-4 Battle of Nantwich, *c*

1824 Defeat of the English by the Ashantes, *b, d, f*

1846 Battle of Phulloor, *a, b, c, d, e*

1846 Battle of the Sutlej, *d, f*

1849 Battle of Hermannstadt, *a, b*

1851 Battle of Fort Hare, *a, b*

1851 Battle of San José, *a, b, c*

1851 Siege of Awah (2nd day), *d*

22nd.

1803 Battle of Frenchtown, *c, e*

1809 Capture of the "Topaz" by the British, *a*

1811 Capture of Olivenca, *b, d, e*

1826 Capitulation of Calao, *b*

1849 Surrender of Mooltan, *a, b, c, e, f*

1859 Siege of Awah (3rd day), *a*

23rd.

1570 Insurrection in Scotland, *c*

1661 Insurrection of Fifth Monarchy-men, *b*

1762 War declared against Spain by England, *d*

1826 Surrender of Calao, *b*

1826 Peru evacuated by Spaniards, *b*

1859 Capture of Awah, *a*

24th.

1799 Revolution at Naples, *a, b, c, e*

1805 War declared against Spain by England, *a, d, f*

1811 Expedition against Corsica, *c*

1812 Battle of Tarragona, *c*

1814 Battle of Bar-sur-Aube, *a*

1831 Poland declared independent, *b*

1856 Battle near Genres-tower, *a*

25th.

1267 Capture of the Isle of Ely by the Barons, *†*

1267 Siege of Kenilworth Castle,

- 1512 War declared against France by Henry VIII., *a, d*
 1643 Battle of Drayton-in-Hales, *c*
 1644 Battle of Nantwich, *a, b; c, e, f*
 1807 Conquest of Silistria, *a, b*
 1807 Battle of Morangen, *a, b*
 26th.
 1517 Surrender of Verona, *a, b*
 1666 War declared against England by France, ***
 1799 Capture of Naples, *a, b*
 1841 Capture of Hong-Kong, *c*
 1859 Siege of Fort Ratghur, *a*
 27th.
 1080 Battle of Fladenheim, *c*
 1806 Occupation of Hanover, *b*
 1809 Capture of Ferrol, *a, b, c, e, f*
 1814 Siege of Dizier, *c*
 1828 War of Russia against Persia began, *b* (1821, *a*)
 1828 Surrender of Onrinea to the Russians, *a, b*
 1859 Siege of Ratghur (2nd day), *a*
 1851 Austria crosses the Elbe, *b*
 28th.
 1807 Capture of Curagoa, *b*
 1826 Relief of Missolonghi, *b*
 1846 Battle of Aliwal, ***
 1853 War declared against Russia by England, *a*
 29th.
 1643 Battle of Liskeard, *c*
 1801 Capture of the "Incendiary" by the British, *a*
 1814 Battle of Brienne, *a, b*
 1849 Insurrection at Paris quelled, *b*
 1851 Occupation of Hamburg, *a, b*
 1856 Russian sortie, *a*
 1859 Capture of Fort Ratghur, *a*
 30th.
 1715 Retreat of Pretender from Perth, *b*
 1806 Hanover entered by Prussia, *c*
 1851 Battle of Fort Cox, *a, b*
 1854 Capture of Aves, *b*
 1857 Insurrection at Hong Kong, *a*
 1859 Battle of Banda, *a*
 31st.
 1693 Massacre of Glencoe, *d*
 1711 Surrender of Gerona, *b*
 1797 Battle of Mantua, *c*
 1807 Battle of Vellora, *c*
 1828 Battle of Carabusa, *a, b, c; e, f*
 1834 War in South America began, *a, b*

We shall be glad to receive corrections or additions. We intend to arrange each month the *six* best. The lists for February should be sent in *not later* than Monday, the 17th instant.

Authors differ so much with regard to dates, that we shall give six different dates for one event, should each of our six contributors forward them. We hope, however, that each contributor will be able to refer to his authority, should the accuracy of his quotation be questioned.

Notes and Queries.

. We wish it to be distinctly understood that we do not guarantee that all the notes, replies, &c., are correct. Criticisms on lessons, parsing, &c., are requested. The Subscribers to the "Pupil-Teacher" should consider themselves as members of a Mutual Improvement Society, and regard our periodical as their medium of intercommunication.

Our Notes and Queries are of three classes:—

- I.—Mathematical.
- II.—Philological, including Grammar, Paraphrasing, Composition, &c. &c.
- III.—Miscellaneous, including all questions on subjects of Study or Method. Questions of Discipline or Management, affecting Pupil-teachers, are discussed in the EDITOR'S COUNCIL.

In sending answers, merely refer to the number and page thus:—"Mathem. No. —, p. —;" "Philol. No. —, p. —;" "Miscell. No. —, p. —."

N.B.—The number refers to the *query*, not to the "Pupil-Teacher."

MATHEMATICS:—PROBLEMS, &c.

As our space is limited, and we wish to make the most of it, we must beg our correspondents *not* to send problems or solutions which absolutely require geometrical diagrams.

1. (ANGELUS).—Two couriers start at the same time from two towns, A and B, and travel each towards the town from which the other started, in the expectation of meeting. After some days they meet; when it is found that one of them has travelled 84 miles more than the other, and that, by continuing to travel each at the same rate as he had done before, the one will finish the journey in nine days, and the other in sixteen. Required, the distance between the places, and the rate at which the couriers travelled.

2. (IS.)—Solve the following quadratic equations:—

$$\begin{aligned} \text{Given } y^2 - 12xy^2 &= 432 \\ y^2 - 2xy &= 12 \end{aligned} \quad \text{to find } x \text{ and } y.$$

3. (W. H. V.)—If a body be put in motion by a force which moves it 20 yards the first minute, 15 yards the second minute, $11\frac{1}{2}$ yards the third minute, and so on continually, how many yards will it pass over?

4. (A. B.)—The following question from *Colenso's Arithmetic* answered on "first principles:—"

If the sixpenny loaf weighs $5\frac{1}{2}$ lbs. when wheat is at $5\frac{1}{2}$ s. per bushel, what must be paid for $52\frac{1}{2}$ lbs. of bread when wheat is at 18s. 6d. per bushel?

5. (W. G. W.)—

$$\begin{aligned} \text{Given } xy &= x_2 - y^2 \\ \text{And } 2x^2 &= x_2 + y_1 \\ x - y & \end{aligned}$$

To find x and y without quadratics.

6. (W. ROSS).—In making gold thread for embroidery, a cylinder of silver, weighing 360 oz. avoird., is cased with one of gold, weighing 6 oz.; and this mass is drawn through a series of circular holes, continually diminishing in diameter, until it becomes so thin that 202 feet in length weighs 1 dram; what is now the length of the thread?

7. (W. G. W.)—The base and vertical angle of a triangle being given, show from Euclid, that it is isosceles, when its area is a maximum.

8. ()—A party at a tavern, had a bill of £4 to pay between them; but two having sneaked off, those who remained had each 2s. more to pay: how many were there at first?

9. (G. HAYWOOD).—A boat's crew rowed $3\frac{1}{2}$ miles down a river, and up again, in 100': supposing the stream to have a current of 2 miles an hour, find at what rate they would row in still water.

10. ("NEVER TOO LATE TO LEARN").—Prove the IX. Proposition of the 2nd Book of Euclid, algebraically.

* Solutions to the first fourteen are in type. They are all from Vol. II. of the *Pupil-Teacher*. The first nine are from the October number (pp. 262-3); 10 and 11 are from p. 236; 12 is from p. 21; 13 from p. 204; 14 from p. 205. The eight following are new.

11. (H. T.)—A farmer is desirous of inclosing exactly two acres of ground on a common. The enclosure is to be in the form of a trapezium, three of whose sides are to be three, four, and five chains respectively. The farmer agrees with a labourer to fence it for a certain sum; but the farmer and the fencer being alike ignorant of mathematics cannot find out the length of the remaining side. The farmer, wishing that the fencer should do a great deal of work for his money, desires some clever mathematician to give him the utmost possible length of the remaining side; and the fencer, being anxious to do as little work as he can for his fixed hire, wishes to know its shortest length.

A solution of the above, "as simple as possible," by arithmetic.

12. (T. K.)—Solve the following quadratic equations (from *Hall*):—

$$\begin{aligned} (1) \quad & \left. \begin{aligned} 2x - 3y &= 2 \\ 8x^2 - 27y^2 &= 37xy \end{aligned} \right\} \\ (2) \quad & \left. \begin{aligned} x - y &= \sqrt{x} + \sqrt{y} \\ X^{\frac{2}{3}} - Y^{\frac{2}{3}} &= 37 \end{aligned} \right\} \end{aligned}$$

13. (PHILOMATHES).—Give an account of the origin of negative quantities.

14. (NOVISSIMUM AGMEN).—The product of the number of days that A takes to complete a job, and the number of days that B takes, is 216, and their sum 30. Required, in how many days the work will be finished when they work together (by arithmetic).

15. (W. V. H.)—A certain sum produces an annual income of £200 when invested in the 3 per cent. consols, and of £260 when invested in railway 4 per cent. preference shares at par. Required, the sum invested, and the price of consols. (From "*Barnard Smith's Arithmetic*.")

16. (J. D.)—Solve the following:—

$$2x^2 - x - 2x\sqrt{1-x^2} = 1\frac{1}{2}$$

—(From "*Papers for the Schoolmaster*," Vol. III.)

17. (W. G. W.)—Let t be the traction in lbs. of the work of a horse, and r his rate in miles per hour;

$$\text{Then } t = 250 - 41\frac{2}{3}r$$

Find from this formula the rate of travelling by which he can perform the greatest amount of work—(See "*Tate's Exercises*," p. 12).

18. (W. G. W.)—

$$\text{Given } (x^2 + 99x)(x + 100) = 1 - (x + 100)$$

To find x .

19. (WILLIAM OLIVER).—

$$\text{Given } 2x^{\frac{2}{3}}(x^2 + a^2) = 2x^2(x + 2a) + a^2(x - a).$$

To find the value of x .

20. (IBID.)—

$$\text{Given } x + \sqrt{x + 2} = \frac{x^2 + x - 4}{\sqrt{x}}$$

To find the value of x .

NOTES AND QUERIES.

21. (IBID.)—

$$\text{Given } x^2 - \frac{5x}{2} + 15 = \frac{25x^2}{16} - \frac{64}{x^2}$$

To find the value of x .

22. (LEANDER).—How much land, worth 17s. 6d. per acre, must be added to a farm of 51 acres, 2 roods, 20 poles, worth £1 14s. 6d. per acre, so that the average value of both together may be £1 2s. 9d.? (*Thomson's Arithmetic*.)

PHILOLOGICAL QUERIES, &c.

1. * (CONSTANT READER).—Analyse the following according to Morrell, and parse the words in italics:—

"But *taking note* of thy abhorred aspect,
Finding thee fit for bloody villany,
Apt, liable to be employed in danger,
 I faintly broke with thee of Arthur's death."

2. (P. C.)—Parse the words in italics:—

The *nobility*, the *peerage* of Great Britain, or *lord's temporal*, as *forming*, together with the bishops, *one* of the supreme branches of the legislature, we are here to consider according to their several degrees or *titles* of honour.—*Warren's "Blackstone,"* p. 100.

3. (W. BOWERS).—Arrange into principal and secondary clauses, and parse the words in italics:—

"And *made his grove*
 The *pleasant valley* of Hinnom, *Topheth thence*,
 And black *Gehenna call'd*, the *type of hell*.—MILTON'S P. L.

4. * (PUER TIMIDUS).—Analyse:—

"Him the Almighty power
 Hurl'd headlong flaming from the ethereal sky,
 With hideous ruin and combustion down
 To bottomless perdition; there to dwell
 In adamant chains and penal fire,
 Who durst defy the Omnipotent to arms."—MILTON'S P. L.

5. (SCOTIA).—Paraphrase and Analyse:—

"The Sundays of man's life,
 Threaded together on Time's string,
 Make bracelets to adorn the wife,
 Of the eternal glorious King.
 On Sundays heaven's door stands ope,
 Blessings are plentiful and rife,
 More plentiful than hope.

6. (J. L.).—Give instances in which the meaning of a sentence may depend on the part of Speech to which "only" refers.

[This and the following three are from Vol. II. of the *Pupil-Teacher*; 1 and 2 are from the *October* No., p. 262; 3 and 4 are from *November* No. p. 290. The others are new.]

MISCELLANEOUS: QUERIES, &c.

1. GEOLOGY. (*Plato*).—Have any antediluvian human bones been discovered; If so, by whom? and where?

2. ANTEDILUVIAN SKELETONS. (*Id.*)—What is the best work on this subject?

3. CAPITATION GRANT. (*W. G. W.*)—Does the Capitation Grant increase or diminish the incomes of teachers in thinly populated rural districts?

4. FIRST CLASS QUEEN'S SCHOLARSHIPS. (*John M.*)—It would be a great help to fifth year Pupil-teachers if some First-Class, Queen's Scholars would state—for publication, as nearly as they can—the questions they answered, and *how* they answered them.

5. ICE. (*Ex improviso*).—The following is taken from "Cornwell's School Geography, p. 199:—"It is said, too, that in the Angara, ice is formed at its bottom sooner than at the surface." If any of the many readers of the "Pupil Teacher" could explain the above, they will greatly oblige.

6. EDUCATION AND INSTRUCTION. (*Anxiety*).—The difference between Education and Instruction.

7. WOOLLEN MANUFACTURE. (*Gwyllim*).—An account of the Woollen Manufacture in England.

8. COTTON MANUFACTURE. (*Gwyllim*).—An account of the Cotton Manufacture in England.

ANSWERS.

6. THE DIFFERENCE BETWEEN EDUCATION AND INSTRUCTION.

I. *Their Nature*.—1. Education (*Lat. e, out; duco, to draw*) is the drawing out and developing of the faculties, mental, moral, and physical training. 2. Instruction (*in, into; struo, to build*) is teaching, imparting knowledge.

II. *Their Subject*.—1. Education acts on all the faculties, and more especially on the moral feelings, represented by the heart. 2. Instruction is given to the intellectual faculties, represented by the head.

III. *Their Object*.—1. Education aims at imparting real *wisdom*, to make a good man. 2. Instruction aims at imparting *knowledge*, to make a good scholar.

IV. *Means*.—1. Education, while it imparts knowledge, shows its practical use; while it inculcates moral principles, trains to habits founded on them. 2. Instruction is given by teaching, orally, by books, by example, and by illustration; habits may be taught, but not enforced.

V. *Their Results (Probable and Possible)*.—1. Education forms a man of regular, consistent, and moral habits, founded on true principles. 2. Instruction gives a man a knowledge of principles, but he has not the habit of reducing them to practice. 3. Instruction gives one a view of the garden of knowledge, and tells what is inside. 4. Education opens the gate and lets one into the garden, to become acquainted at will with the plants and flowers therein, to practically apply, and minutely examine, any of the branches thereof.—PEN.

7. THE RISE, PROGRESS, AND HISTORY OF THE WOOLLEN MANUFACTURE IN ENGLAND.

I. *Origin of the Manufacture*.—Draw from the children the necessity of clothing for animals, *natural or artificial*; the latter required by man; why? The quality and quantity determined by the climate and state of civilization; procured from either the vegetable or animal world; among savages of the slightest and rudest kind—generally the *skins of beasts*, the shepherd taking the sheep's skins, the hunter those of the prey—easily adapted for a covering. Adam and Eve had "coats of skins" (Gen. iii. 21), and saints wandered in "sheep skins and goat skins" (Heb. xi. 37); some Europeans (Russians, Lapps, Pyrenean shepherds, &c.) yet dress in them. The hard, dry skins, unpleasant; the natural *felting* of wool would suggest improvements; *felt* produced by beating and pressure; spinning and weaving discovered very early (*vide* Job xxxi. 19, 20); coarse cloth made; *shearing* the living substituted for *flaying* the dead animal—more economical—the clothing produced more comfortable, agreeable, and healthful.

* This and the two following are from Vol. II. of the *P. T.*; 6 is from the June No. (p. 154); 7 and 8 form one in the July No. (p. 178). N.B. Good notes to 8 still required.

II. *Introduction and History of the Art in England.*—Trace out the condition of the manufacture under each line of sovereigns:—

(a). *Under the Romans and Saxons.*—Notice the dress of the Ancient Britons—chiefly undressed skins, “a mantle which descended to the knee, made of the hide of a brindled cow, with the hair worn outwards;” woollen manufacture introduced by the Romans with other arts; woollen garments little used till long after the Conquest. Spinning known and practised by the Saxons; the occupation of queens, princesses, and noble ladies, *e. g.*, Osburga and her daughters; hence the derivation of “spinster,” the legal name for an unmarried female.

(b). *Time of the Normans* (11th and 12th centuries).—English less clever than their continental neighbours. Flemings brought over (whence?) by the Conqueror, and settled at Carlisle; removed to Wales by Henry I. They laid the foundation of the general manufacture. “Cloth Fair,” near Smithfield, established by Henry II. Why likely to become a settled manufacture in this country?

(c). *Under the Plantagenets* (14th century).—Raw wool then the staple of England; exported to Italy, Holland, and Belgium. The queen’s jewels, valued at £2000, redeemed with wool. Notice also the *woolsack* of the House of Lords. Edward III. (through his queen Philippa, daughter of the Count of Hainault) invited many more Flemings (among them were John Kempe and Thomas Blanket) into England; scattered them throughout the country; forbade the export of wool and the import of foreign cloth.

(d). *Under the Tudors* (16th century).—The trade depressed, but slightly revived by the invention of the *spinning-wheel* in the reign of Henry VIII.; called also the “wool-wheel;” great improvement upon the distaff and spindle which it superseded. In the time of Elizabeth an extensive immigration of Flemish refugees (persecution of the Duke of Alva and Philip of Spain) introduced superior machinery; possessed greater skill; better and cheaper fabrics produced.

(e). *House of Orange* (17th century).—Manufacture firmly established, under William III.; dyeing and dressing first done in England.

(f). *House of Brunswick* (18th century).—Shaken by the first cotton trade (1780); retarded awhile, afterwards improved and extended; machinery (spinning-jenny, power-loom, &c.) and steam power substituted for the hand-loom and manual labour; cost lowered; greater demand.

III. *Present Condition.*—Lead the children to see its vast importance by considering (1) the localities where carried on, (2) the people engaged, and (3) the results produced.

1. Trade located chiefly in two districts—the West Riding of Yorkshire and the West of England—Gloucestershire, Wiltshire, and Somersetshire. Both *physically* adapted; how? Near seaports; raw material easily obtained; water, coal, and iron plentiful.

2. Numerous large populous towns supported by it. In the former district, Leeds, Bradford, Halifax, Huddersfield, Dewsbury, Wakefield, Keighley, and many villages produce, generally, coarse cloth; in the latter, Stroud, Great Bradford, Frome, Trowbridge, Melksham, Chippenham, Westbury, “West of England cloth,” of finer texture; why? Finer wools grown in southern counties.

Contrast the former *domestic* manufacture with the present *factory* system of labour; when it was spread over the whole country, the wives and children of the farmers prepared the yarn, which was woven into “home-spun” cloth by itinerant weavers; when—

“The dame was wont
To set her wheel before the cottage front,
And o’er her spectacles would often peer
To view our gambols and our boyish gear;
Still, as she looked, the wheel kept turning round
With its beloved monotony of sound.”

Gives employment to four hundred thousand people—four times the number engaged in the manufacture thirty years ago. Annual value of goods, twenty-two millions sterling. Some of the Yorkshire manufacturers use four hundred tons of olive oil annually in the preparation of their cloths and yarn.

3. Results very varied:—raw wool imported from all quarters; English woollen goods (cloths, flannels, blankets, merinos, stuffs, tweeds, damasks, &c.) exported over the whole world, especially to Germany, Russia, and the United States; *e. g.*, in the late war (1856), France expended more than a million sterling in English rugs, cloths, and blankets, for her army.

IV. *Lessons*.—Draw from the children, or lead them to see—

(a). That kindness and generosity are never wasted; the shelter and protection afforded the persecuted and suffering refugees of the sixteenth century repaid by the benefits we derive from their skill.

(b). The importance of discoveries in manufactures in contributing to our domestic comfort; "broad-cloth," formerly worn only by the rich, the cheapest, eight or ten shillings per yard; poor men were clothed in "second-hand" garments; *now*, good woollen cloth is within the reach of all at five shillings a yard; the cheapest, about two shillings; the dearest, ten.—A. FORD, Fourth Year.

F. GILLESPIE desires us to convey his thanks to our kind correspondent "Leonidas," for directing him to study the able article in the "Spelling-Book Superseded."

MATHEMATICS—SOLUTIONS, &c.

1. (p. 9).—Let C, D, be the couriers, C starting from A, D from B, and let C be the faster traveller.

Let x be C's distance travelled in miles before the meeting.

y — D's " " "

Then $x = y + 84$.

Now y = miles C travels in 9 days.

$\therefore y : x :: 9 : \frac{9x}{y}$ = No. of days A travels before the meeting.

Also x = miles B goes in 16 days.

$\therefore x : y :: 16 : \frac{16y}{x}$ = No. of days B travels before meeting.

Hence $\frac{9x}{y} = \frac{16y}{x} \therefore 9x \sqrt{} = 16y \sqrt{} \therefore 3x = 4y$.

$\therefore x = \frac{4}{3}y$ 1 but $x = y + 84$.

$\therefore \frac{4}{3}y = y + 84 \therefore \frac{y}{3} = 84 \therefore y = 252$

$x = 336$

\therefore distance between the towns = $x + y = 588$ miles.

and C's rate = $\frac{252}{9} = 28$ miles per day.

D's rate = $\frac{336}{16} = 21$ miles per day.

ALPHA.

Similarly:—Farquharson; S. Edwards; Campbeltown; "Courier," Pitt; Irvine; Trigon; Pen; G. Hooker.

[NOTE.—Nine correspondents make $x = 300$ miles. $\therefore 18\frac{3}{4}$ miles and $33\frac{1}{2}$ miles respective dist.]

2. (p. 9.)—From the first equation—

$$x = \frac{y^4 - 432}{12y^2} \quad 1$$

and from the second—

$$x = \frac{y^2 - 12}{2y} \quad 2$$

(1) and (2) equated easily reduce to—

$$\begin{aligned} y^4 - 6y^3 + 72y - 432 &= 0 \\ \text{or } (y - 6)(y^3 + 72) &= 0 \\ \text{hence } y - 6 &= 0, \text{ and } y = 6 \end{aligned}$$

This value of y substituted in (2) gives $x = \frac{36 - 12}{12} = \frac{24}{12} = 2$.

Again $y^3 + 72 = 0$ gives three values of y ; viz., $y = \sqrt[3]{-72} = -2\sqrt[3]{9}$, $y = \sqrt[3]{9}(1 - \sqrt{-3})$ and $y = \sqrt[3]{9}(1 + \sqrt{-3})$.

The values of x may be found from 2, as before. W. G. W.

Correct Solutions also from Alpha; S. Edwards; Zed; Epsilon (*Irvine*); Campbelltown; Gamma (*Irvine*); Jim Young. Many others nearly correct.

3. (p. 9.)—Call the first space (20 yards) a , and the common difference r .

$$\text{then } a + \frac{3a}{4} + \frac{9a}{16} + \frac{27a}{64} \text{ ad infinitum.}$$

Now the theorem for the summation of a decreasing geometrical series is—

$$\frac{a}{1-r} = \frac{a}{1-\frac{3}{4}} = \frac{a}{\frac{1}{4}} = \frac{4a}{1} = 4a = 80.$$

Therefore it will pass over 80 yards.

PITT.

Let S = sum of the series 20, 15, $11\frac{1}{4}$, &c., *ad infinitum*.

Here the common ratio is $\frac{3}{4}$. Now if we multiply every term of the series by the common ratio, we find that—

$$\begin{aligned} \text{I. } \frac{3}{4} S &= 15 + 11\frac{1}{4} \text{ \&c., ad inf.} \\ \text{II. } S &= 20 + 15 + 11\frac{1}{4} \text{ \&c., ad inf.} \end{aligned}$$

Here the same set of numbers occurs in both series, except the first term of II. Therefore subtracting I. from II., we have $\frac{1}{4} S = 20$, and $S = \frac{20}{\frac{1}{4}} = 80$ yards. J. K. C.

Similarly:—Alpha (by Colenso's Algebra, Part I., Art. 146); S. Edwards; Thomas E. Jones; Trigon; Jim Young; W. G. W.; Campbelltown; John Brown (*Irvine*); Anglo Saxon.

Editor's Exercises.*

* Answers to all have been received, and most of them are arranged for publication. We regret that want of space compels us to keep them back this month.

ARITHMETIC.

Work out, in the most expeditious way you can, the following questions, and explain as you would to a class, each step in the operation:—

1. What would be the cost of 20 tons 19 cwt. 3 qrs. 27 lbs. 8 ozs. at half-a-guinea per cwt?
2. What would be the cost of 2 hhds. of sugar at £1 10s. per cwt., the weight being: (1.) 11 cwt. 0 qrs. 17 lbs., tare 98 lbs., tret 14 lbs. per cwt. ? (2.) 10 cwt. 1 qr. 11 lbs., tare, 3 qrs. 20 lbs., tret 1 lb. per cwt.?

3. Explain, as to a class, the simplest technical method of *multiplying* any sum of money by 20.

4. Explain, as to a class, the simplest technical method of *dividing* any sum of money by 20. 5. Why are these methods specially important?

6. If $4\frac{1}{2}$ yards of silk cost £1 11s., what will be the cost of $10\frac{1}{2}$ yards? (*Gov. Exam., Christmas, (1853.)*)—Work this in the simplest manner you can, so that the reason of each step may be easily explained to the pupils.

[1 and 2 are from *Pupil-Teacher*, Vol. II., p. 205; 3, 4, 5, and 6 from p. 265.]

GRAMMAR.

1. How can the objective case be governed? Give examples in each case.
2. State the main arguments, for and against, accounting the articles a separate part of speech.

3. How would you explain to your class the difference between the past tense and the past participle? 4. How are English participles used?

[1 and 2 are from *Pupil-Teacher*, p. 183; 3 and 4 from p. 205.]

RHETORIC.

1. What are the figures of defect (or omission) in Syntax?
2. Give an instance of *Asyndeton* from any English poet; the quotation not to exceed four lines.

[*Pupil-Teacher*, Vol. II., p. 183.]

HISTORICAL GEOGRAPHY.

1. Write out methodically and briefly, historical notes relative to Kendal.
2. Write out, methodically and briefly, historical notes relative to Maldon.
3. Write out, methodically and briefly, historical notes relative to Aberdeen.
4. Write out, methodically and briefly, historical notes relative to Winchester.
5. Write out, methodically and briefly, historical notes relative to Windsor. [This is the only new question.]

[1 and 2 are from *Pupil-Teacher*, Vol. II., p. 205; 3 and 4 from p. 265.]

HISTORY.

1. What battles have been fought in Wales since the Norman conquest?
2. How many princesses of Wales have there been? Name them; distinguishing those who have become Queen Consorts.

3. The following *Thomases* lived in the reign of Henry VII.; state as briefly as you can for what each was noted:—Thomas Astwood, Thomas Bouchier, Thomas Boleyn, Thomas Broughton, Thomas Cranmer, Thomas Cressenor, Thomas Cromwell, Thomas Fulford, Thomas Howard, Thomas Langton, Thomas Pope, Thomas Stanley, Thomas Stafford, Thomas Thwaits, Thomas Trenchard, Thomas Wolsey, Thomas Wyatt.

4. Can you mention any other *Thomases* who lived in this reign? If so, state for what each was noted.

5. Give the names of the remarkable persons born in this reign.

6. Give the names of the remarkable persons who died in this reign.

7. What right had Henry VII. to the throne of England?
8. Give a succinct account of Catherine of France.
9. What is known of the British king Arthur?
10. How is it that the daughter of the Earl of Huntley, who married Warbeck, is called in some books Lady Douglas, and in others Lady Gordon?
11. What females of historical note lived in the reign of Henry VII.
12. How many children had Henry VII.? Give their names, and the dates of the birth and death of each.

[1 and 2 are from *Pupil-Teacher*, Vol. II. p. 205; 3 to 12 (both inclusive) from Vol. II., p. 265.]

ANSWERS—HISTORICAL GEOGRAPHY.

Arranged by the Editor from the *six* best papers :—William Shaw (1); Walter J. Reynolds (2); Robert High (3); J. S. W. Latymer (4); Quentin (5); Lancastrian (6).

Particulars marked thus (†) are supplied by the Editor.

WINCHESTER is situated on the River Itchen, in Hants, of which it is the county town. (6)

It is the only city in Hampshire. (†)

It was the capital of the Belgian Britons.

It was a Roman military station (hence its termination *Chester*, which is derived from *castra*, a camp.

Its ancient name was Wintoniensis. (4)

Hence the Bishops of Winchester always sign themselves "Winton." (†)

The Bishop of Winchester is always prelate of the Order of the Garter, and Chancellor to the Archbishop of Canterbury. (2)

Its bishopric was founded in 663. (5)

The first church in this city is said to have been built by King Lacius, the first British King converted to Christianity, 187. (†)

The cathedral was commenced by King Kinegils, about the year 635. (†)

The cathedral is a large venerable fabric, beautiful in its architecture, and containing numerous splendid monuments. In this building were interred several Saxon kings and queens, whose bones were collected by Bishop Fox, put into six gilded coffins, and placed on a wall in the south side of the choir. (2)

The cathedral was consecrated in 980, by St. Dunstan, in the presence of King Ethelred; and in 1093 it was rebuilt by Walkelin. (3)

In 1202 the cathedral was much enlarged by Godfrey de Lucy. (3)

The city anciently had a wall of flint, and four gates, one of which (the Westgate) remains. (†)

The decayed walls are a mile-and-a-half in circuit. (2)

It was made the capital of the Feederal monarchy by Vortigern, in 426. (†)

It was the capital of England for more than 600 years. (†)

In the reign of Henry I. the city extended a mile in every direction beyond its present limits. (4)

The castle is said to have been built by King Arthur, in 523. (†)

It was rebuilt by William the Conqueror, who made it his chief residence, and who here caused the Doomsday Book to be compiled. (†)

It continued to be a royal residence till 1688. (5)

The curfew bell is still rung here. (5.)

A correspondent of the *City Press* (Dec. 17, 1859) writes: "Every city in England, including Wales, has, I think, its curfew. At Winchester alone, that I know of, it is not rung at the principal church, but at the turret of the Town-house." (†)

The castle was nearly demolished by Cromwell after the battle of Naseby. (†)

On a fine eminence stood the castle, which was taken from Charles I., and afterwards demolished, except the magnificent hall in which the assizes are held, and in which hangs what is denominated "King Arthur's round-table," with the names of the knights thereon. (2)

Archbishop Stigand was imprisoned in the castle by William the Conqueror. (†)

In 1075, Waltherof, Earl of Huntingdon, was beheaded before the castle gate. (†)

On the site of the castle is the shell of a palace began by Charles II. in 1683, but never finished. (2)

Some years since, a part of it was fitted up for the reception of prisoners of war. (6)

It is now converted into barracks for infantry. (2)

Charles II. appointed Sir Christopher Wren to build a royal palace at Winchester, but the king dying before its completion, it was converted into a barrack. (3)

Egbert summoned a general council or parliament here, at which he was crowned King of England, 829, by which name the United Kingdom was thenceforward called. (1)

In 890, King Alfred founded an abbey, in which he was afterwards buried, 900. (3)

It possessed in the 12th century three royal monasteries, and many religious houses of less note; but many, if not all of these, were suppressed in the reign of Henry VIII. (4)

The college of Winchester was founded by William of Wykeham, in the reign of Richard II., 1393. (3)

There is also a fine college founded by Bishop Mosley, in 1672, for ten clergy-men's widows. Christ's Hospital, commonly called the Blue Alms, was founded in 1706. (2)

In 1548, William Kingsmill was appointed the first dean, and the religious establishment was changed to that of the Reformed Church. (3)

The bishop's palace, and many other buildings, were destroyed by Cromwell, 1646. (3)

In 1669 the city was visited by that awful calamity "the Plague," and an obelisk was raised to commemorate the mournful event. (3)

It is one of the most ancient cities of Great Britain; as early as A.D. 176 it contained several monasteries, and was the residence of the British prince Lucius. (3)

Canute restored the Saxon customs in a General Assembly of the kingdom, which met here 1021. (1)

In 1072, Hubert, the Papal legate, in a council of all the dignified clergy of the realm, decided the superiority of the See of Canterbury over that of York. (†)

In 1141 a battle was fought near Winchester, in which Matilda's army was defeated; and the Duke of Gloucester being taken prisoner, was exchanged for Stephen, who founded the Hospital of St. Cross. (3)

Near the south end of the city is the Hospital of St. Cross; all travellers calling at which have a right to demand some bread and beer, which they always receive. (2)

In 1264, Simon De Montfort, Earl of Leicester, called a parliament at Winchester in the king's name. This parliament was the first wherein two knights for each county, two citizens for each city, and two burgesses for each borough, were summoned. This was the origin of the House of Commons. (1)

Parliaments were held here in the reign of Edward III., 1330—1371. And in the reign of Richard II., 1393. (1)

Winchester was the birth place of Henry III. (Oct. 1, 1206-7), and of Prince Arthur, son of Henry VII. (Sep. 20, 1486).

Here Henry I. was married to Matilda of Scotland.

Henry IV. was married to Mary de Bohun, and

Mary was married to Philip of Spain.

Here Cerdic, the founder of the West Saxon monarchy, was crowned. Egbert was here crowned King of England. Edward the Confessor was crowned here in 1041, when the first coronation sermon on record was preached. Here, in 1069, William the Conqueror was crowned, and in 1141 "the empress" Matilda was crowned. Richard (I.) Cœur-de-Lion was crowned here, after his return from the Crusade.

It is the burial-place of Egbert, Ethelwolf, Alfred the Great, Edward the Elder, Edred, Edwy, Canute, and William II. (1)

MENTAL GREATNESS.—Many minds can aspire to high designs. Many others can deal admirably well with any point of detail, though they are not large enough, as it were, to take in the whole of a subject. But it is the rare power of combining extensive schemes with attention to the least trifle that may conduce to them, which, it appears to me, forms the great element of mental greatness and of human success.—*Lord Mahon.*

Recreative Exercises.

* * The Proposer is, in each case, required to forward to the Editor the Answer in detail, with the Exercise. (See ANSWERS TO CORRESPONDENTS—*Recreative Exercises*.)

I.—The initials of the answers to the following questions will give the name of an eminent music-maker :—

1. A captive that preferred water to wine.
2. An Assyrian who helped to murder his father while in the act of worship.
3. The meaning of the word Ephraim.
4. The name of the king murdered by Baanah and Rechab.
5. The name of a heathen king (afterwards converted to Christianity), who subdued the enemies of God's people when he was about sixty-two years of age.

C. F. R.

II.—The initials spelt downwards will give a name prominent both in ancient and modern history, and which, if successfully beheaded until but one letter remains, will in all cases retain its original idea.

The initials spelt upwards will give a well-known regular passive verb,
The finals spelt downwards will give the name of the goddess of flowers.

1. The name of a substance invented at Delft.
2. The name of the smooth, hard covering of the teeth.
3. The Latin derivation of the word *province*.
4. The ancient name of the river Danube.
5. The name of the goddess of thieves.

CHARLES F. REDMAN.

- III.—1, 2. The name of two rivers in England transpose,
3, 4. 'Twill the name of two Scripture-famed persons disclose;
Transpose it again, 'twill suggest to the mind
5, 6. The state of the world, and the plague of mankind;
Transpose it again, and then you will see,
7. What a blazing mineral 's oft said to be;
By transposition next you'll find
8. What for concealment is designed;
When this you've done, transpose again—
The character of Nero, then
You'll find described in just one word,
9. From which his baseness is inferred.
Transpose once more, and then you'll view,
What all with life or breath must do;
Until like Shakspeare, Pope, or Guy,
10. Or any noted man, they die.

The number of letters thus transposed, no doubt,
For the name of the rivers you'd like to find out.
To guess what's the number I'll give you a chance:
There's an article used by musicians of France;
Remove it from one of our words, and you'll find
That just half-a-dozen is still left behind.

E. N. M.

[The first two are from Vol. II. of the *Pupil-Teacher*—the first from the *October* number (p. 262), the second from the *November* number (p. 290). The third is the Proposer's original, but it has been published before.]

ANSWERS.

- I.—1. D—aniel. (*See Daniel i. 11, 12.*) (10—13, *Sapere Ande.*)
 2. A—drammelech. (*See 2 Kings xix. 37.*)
 3. V—ery fruitful. (*See Genesis xlix. 22.*) xli. 52, *W. Bowers.*)
 4. I—shbosheth. (*See 2 Samuel iv. 5—7.*)
 5. D—arius. (*See Daniel vi. 25—28.*)

The initials spell the word "DAVID," who was an eminent music-maker.

JOHN DOGGETT, Aged 9 years.

[Well-done, John! As you are the youngest and, no doubt, the smallest, we place you in front of a goodly number. No one of the others who have answered will grudge you the position which we now award you.—ED.]

The following answer *correctly*, but give no references:—the Proposer; Clara Watson; James Reid; Lisa; G. Rutland; Thomas Daveny; Thomas E. Jones; B.; Marianne (a Sunday-School Teacher); A. S. Craichie.

The following give Scripture proofs:—*Sapere Ande*; S. Taylor; Joseph Schofield; William Bowers; Cimbria; G. A.

Many others *nearly* correct.

The initials of these words form "DAVID," which is the answer to the question although the title of music-maker is hardly applicable to him.—J. A. N.

The initials give the name "DAVID," who was an eminent music-maker (1 Chron xlii. 5).—JOSEPH SCHOFIELD.

Darius could not have been converted to Christianity, as he lived before Christ came.—J. A. N.

To the Editor of the PUPIL-TEACHER.

- II.—1. D—el—F (Delf).
 2. E—name—L (Ename).
 3. V—inc—O (Vinc).
 4. I—ste—R (Ister).
 5. L—avern—A (Laverna).

The initials spelt downwards give "DEVIL," a name truly prominent in history; which word, successively beheaded, gives, EVIL, VIL (V), IL (I), and L.

The initials spelled upwards, give "LIVED;" and taking the finals in succession, downwards, we have "FLORA," the goddess of flowers.

FREDERICK G. PAINTER.

Answered also by Mira; Ich Dien; Lisa; John Sinclair; W. F. D. Letham; William Shaw; Thomas E. Jones; *Æquabiliter et Diligenter*; J. P. Low; Leonidas; James Fenton; Thomas H. Twist; W. H.; R. McWilliam; James Reid; F. A. B.; Samuel Moss.

A MUNIFICENT DONATION.—It gives us much pleasure to be able to announce, that the British Museum has just received a considerable addition to its numismatic treasures, by the gift from the Count de Salis of his well-known collection of coins. These are in 14 cabinets, containing altogether as many as 7,000 coins, brought together with the greatest taste during many years of the Count's life, and at an expense of about £5,000. The donor has at the same time offered his services gratuitously to the Museum, to assist in arranging the collection, or in amalgamating it with that already in the Museum. The trustees, have, of course, accepted his offer with thanks.—*Critic*.

WORLDLY WISDOM.—Too many learned men are like Pilate; they fix, as he did their Hebrew, Greek, and Latin, *over* Christ's head, instead of putting it *under* his feet.—*Henry*.

The Editor's Council.

Communications under this head are earnestly solicited from managers, masters, and mistresses.

In all answers the real name and address of the writers will be considered indispensable, not necessarily for publication, but as a guarantee of good faith.

The questions are given exactly as they are sent.

The number of the question should be given with the answer. (The number in brackets at the end of the question, is that of the letter in which the question is asked. It is merely for the Editor's convenience of reference.)

1. ANNIE.—Hearing so much of your kindness to Pupil-teachers in distress, I thought I would apply to you in my own. Our school is blest with a mistress who is in the habit of acting much as the master of "An Injured One" is, in a previous number, represented as acting—that of coming very late to school and going away very early; but with this difference, that she leaves the whole power and authority of the school on the youngest Pupil-teacher, who has been apprenticed but one year, while all the responsibility rests on myself and the 2nd Pupil-teacher. I am quite certain that Jane is believed by many of the scholars to be the superior in the school next to Mrs. G., and any stranger would think so too, seeing how she is allowed to preside over we (*sic.*) elder Pupil-teachers during the time (not a very short one) that Mrs. G. is absent from school altogether. Will you have the goodness to publish this, that any of your hundreds of correspondents may kindly give an answer. [729.]

1. LEUMAS.—I fear your correspondent, Annie, seems to betray a somewhat jealous disposition, and certainly is sadly wanting in respect towards her mistress, of whose actions she has no right to judge. Perhaps Mrs. G. may have some good reason for leaving the school to Jane. Annie may not be equal to the charge of it; she may have betrayed a want of confidence on some previous occasion. We should always look at home first, and see what faults there are resting with ourselves. [810.]

1. N.B.—Perhaps Jane is the best manager and disciplinarian. In such case Mrs. G. is quite justified in placing her in such an important position. I have known similar cases. It is but reasonable for masters and mistresses to vest their authority in the one most calculated to preserve order and attention during their absence.

I should hardly think that Mrs. G. would be so capricious as to prefer an inferior manager to a superior. If the fault is in *you*, it is *you* that must improve. But if you can manage the school better, or even as well, get your parents to speak to Mrs. G. If her reply is unsatisfactory, let them speak to the Committee; and if they will not hear, then they should speak to Her Majesty's Inspector. [811.]

2. NOSWAL.—Ought a Pupil-teacher in his fourth year to sweep the school, the master not mentioning such a thing during the three previous years of his apprenticeship? [736.]

3. AN INJURED ONE.—Could you inform me the politest way to cure the following?—

The mistress at our school is in the habit continually of telling tales to the incumbent (I believe for want of anything else to talk about), which tales she hears from the girl-teachers (according to her own statement). I would not mind them so long as they were all true; but, alas! I am sorry to say, she does not confine herself to the truth, or if *she* does, her teachers do not. By affording me your remedy you will greatly oblige. [745.]

Correspondence.

GEOGRAPHY.

(To the Editor of the PUPIL-TEACHER.)

In giving a Geography lesson, it is obvious that a map drawn for the occasion by the teacher on a black board, with only such places inserted that are actually brought before the notice of the pupils, is by far preferable to any other.

Two reasons generally given by teachers not adopting this method are:—

- I. That all teachers are not possessed with a talent for drawing.
- II. That too much time would be required for the preparation of such maps.

To remedy these two evils let the different parts of the map be drawn (before the pupils) as they are wanted. As the mountains of a country generally form its chief physical feature, first draw the mountains in their relative position to each other. The mountains being thus drawn, the other physical features can follow in their natural order; viz:—rivers, lakes, plains, and then the coast line, including capes, bays, harbours, islands, &c. The physical features being dispensed with, the map may be finished by drawing the divisions and marking off the situations of the towns and ports.

This method of map drawing, though, perhaps, apparently difficult to a beginner, is exceedingly simple to those who have had a little practice, and persons not the least acquainted with drawing may easily construct maps by following this plan.

The following "heads" I have found greatly to facilitate the giving of my "geographical lessons." Perhaps they may be acceptable to some of your readers:—

I.—Physical :

1. Mountains.
2. Rivers.
3. Lakes.
4. Coast line.
5. Boundaries, position and extent.
6. Soil.
7. Climate.
8. Productions:
 - (a.) Mineral.
 - (b.) Vegetable.
 - (c.) Animal.

II.—Political :

1. Divisions
2. Towns.
3. Statistics:
 - (a.) Education.
 - (b.) Religion.
 - (c.) Government.
 - (d.) Occupation and People.
 - (e.) Commerce.
 - (f.) Race.
4. Possessions.

—CHARLES F. REDMAN.

THE FIRST ATTEMPT.

(To the Editor of the PUPIL-TEACHER.)

Sir,—In reading your valuable periodical for the last month, I saw there a notice to the effect that several had sent in their "First Attempt." Now, in thinking about this, I came to the conclusion, that, if others can make an attempt, why not I? My mind travelled on when the thought came—but, what can I write about? My misgivings were about to answer "Nothing," but the hope of doing some little good, both to myself and to others, strove for the mastery, and said—Write about "The First Attempt," surely thou'lt make something of it. I determined to do so. And here goes.* And in the first place I would say to those who may chance to read this (if you consider it worthy a place in your pages), remember it is the first attempt, and criticise accordingly.

What can be done without making an attempt?

Look at the Schoolboy. He is placed at school by his parents in order that he may learn, and turn out at least creditably to them. But if he makes everything a drudgery, or, in other words, makes no attempt at learning, he remains a dunce, and so grows up.

* *Elegant!* (Ed.)

Contrast this by a glance at the great mind of some future great man as it unfolds itself. Watch its progress. It goes on from one thing to another, till at last its owner becomes an honour to his country, and dies regretted by all who knew him. Is this done by sitting idle? Is it done without an effort or attempt? No. However gifted he may be, he has to make an attempt, and a great one too. If he does not succeed by the first attempt, he tries again.

A man may have gifts, he may have a mind superior to that of his fellow-man, but if he lets it grow dull, what use is it? and unless he makes an attempt, or several attempts, it must grow dull.

We may all partially succeed by making a first attempt, and we shall conquer if we try, and try, and try again. But if we lay up our talent in a napkin, we shall rue when it is too late.

In conclusion, I would say, to those who have never made an attempt, make the first attempt without delay.

To another class who have made attempts,

“Have you not succeeded yet?

Try, try, try again,” &c. &c.

To a third class, who have attempted and succeeded, I would say, in the poetry of the Negro,

“Go on, go on, go on, go on,

Go on, go on, go on,

Go on, go on, go on, go on,

Go on, go on, go on!”

From your most obedient servant,

J. R., a Member of the Try Company.

Next month we shall publish the *best* criticism on this letter; or perhaps we shall make quotations from *some* of the best. See our Programme, *inf.* “Criticism.” —ED.

Notices of Books.

Scripture Teachings for the Young. By the Rev. ALEXANDER FLETCHER, D.D., of the Finsbury Catechetical Seminary. London: Dean and Son. Cloth, pp. 420.

THIS is a book which will be of great service to Pupil-teachers who give Bible lessons. Dr. Fletcher's style is very pleasing, his arrangement of subjects masterly, his expositions simple and lucid, his illustrations happy and interesting. To address children on such subjects as are here taken up, requires a peculiar tact, and a talent by no means common. Such subjects are too often degraded, so to speak, by being rendered “simple” according to the ideas of some, who, though they thoroughly understand what they are talking about or writing about, do not understand *children*. The book is beautifully illustrated, and is calculated to grace a teacher's library, or to make a beautiful reward-book.

An Advanced Reading Book for Adult and other Schools. Lessons in English History. By C. W. JONES, M.A., Curate of Pakenham. London: Longman and Co., 1859. Cloth, pp. 107.

AN interesting *multum in parvo* this of English History. Very judiciously has the author left the well-trodden track of those who have written, in so compendious a form, sketches of English History. Well chosen quotations from some of our best authors grace Mr. Jones's little book. We have Shakspeare, and Macaulay, and Scott, and others of lesser fame, although of high repute. Mr. Jones himself writes

in a style which pleases ; his diction is not elegant, but it is easy, and adapted both to the object for which, and to the subject on which, he has compiled his "Advanced Reading Book for Adults."

The Beauties of the Bible. Folio sheet, 1d.

The Way to be Happy all the Day long. Folio sheet, 1d.

THESE two sheets are published by Mr. Stevenson, 54, Paternoster Row, at one penny each ; the two will be sent post free for three stamps. We have examined both sheets, and can recommend them to those who wish to give a child a really useful and instructive work. Six of each will be sent to any teacher, post free, for ten stamps. Each sheet contains a large amount of important information, which will be valuable for reference all through life.

Old Poetry.

THE VOYAGE OF LIFE.

BY JAMES.

I wish you all may wiser be
(I wish I could as merry be),
Than when I set out this world to see,
Like a boat filled with good company,
On some gay voyage sent.

There Youth spread forth the broad white sail,
Sure of fair weather and full gale ;
Confiding life would never fail,
Nor time be ever spent.

And Fancy whistled for the wind,
And if e'er Memory look behind,
'Twas but some friendly sight to find,
And gladsome wave her hand.

And Hope kept whispering in Youth's ear,
To spread more sail and never fear ;
For the same sky would still be clear,
Until they reached the land.

Health, too, and Strength tugged at the oar,
Mirth mocked the passing billows roar ;
And Joy, with goblet running o'er,
Drank draughts of deep delight.

And Judgment at the helm they set ;
But Judgment was a child as yet ;
And, lack-a-day ! was all unfit
To guide the boat aright,
Bubbles did half her thoughts employ ;
Hope she believed—she played with Joy—
And Fancy bribed her with a toy
To steer which way he chose.

But still they were a merry crew,
And laughed at danger as untrue,
Till the dun sky tempestuous grew,
And sobbing south winds rose.
Then Prudence told them all she feared,
And Youth awhile his messmates cheered,
Until, at length, he disappeared,
Though none knew how he went.

Joy hung his head and mirth grew dull,
 Health faltered—Strength refused to pull;
 And Memory with her soft eyes full,
 Backward her glance still bent,

To where upon the distant sea,
 Bursting the storm's dark canopy,
 Light, from a sun none now could see,
 Still touched the whirling wave.

And though Hope gazing from the bow
 Turns off, "she sees the shore," to row;
 Judgment grown older now, I trow,
 Is silent, stern, and grave.

And though she steers with better skill,
 And makes her fellows do her will,
 Fear says the storm is rising still,
 And day is almost spent.

Oh! that you all may wiser be,
 Than when I set out this world to see,
 Like a boat filled with good company,
 On some gay voyage sent.

Intelligence.

On Tuesday evening, Dec. 13th, the teachers and children of the Ipswich Girls British School, met to present the senior pupil-teacher, Miss H. T. Mauldon (who has just ended her term of apprenticeship) with a handsome dressing-case and a vase of wax flowers, as memorials of their attachment to her and regret at her departure.

On Friday, Jan. 13th, a Lecture will be given by Mr. Dexter, of the Royal Military Asylum, Chelsea, on the "Abbeys and Castles of England," illustrated by dissolving views, at St. Martin's Schoolrooms, Charing Cross, *free to all teachers, pupil-teachers, and friends.* The lecture will commence at half-past six o'clock.

OSITVARY.—On Dec. 7th., at his father's residence, 16, Britain Street, Portsea, after a long and severe illness, borne with Christian resignation and cheerfulness, John William Newnham, aged 23, deeply regretted by all who knew him. The deceased served his apprenticeship at the All Saints National School, North Clarence Street; and for the last two years, till forced to resign from ill health, was Schoolmaster of West Pennard, Somerset.

CHEMISTRY.—At a late meeting of the British Association, papers were contributed to the Chemical Section from young men who attend the evening class of practical chemistry, in the Museum of Irish Industry, St. Stephen's Green, Dublin. This class is conducted by Robert Galloway, Esq., whose perseverance in chemical science is so much known. This is a very encouraging fact for the friends of adult education; it shows that under the most unfavourable condition, as regards time, far more than even the most sanguine have dared to conceive can be accomplished, if the efforts young men make in the way of self-improvement are properly directed. We sincerely congratulate Mr. Galloway on his success with his pupils;—ESTO PERPETUA!

Notes to Correspondents.

All Communications for the Editor should be addressed "The Editor of the Pupil-Teacher, 54, Paternoster Row, London, E.C."

METHOD OF ASKING OR ANSWERING QUESTIONS.—Our numerous correspondents would save us an immense amount of labour, and be less liable to disappointment from their communications not being promptly attended to, by attention to the following points:—

1. Write *only* on one side of the paper.
2. Keep each subject distinct from others.
3. Head each subject thus:—"Editor's Council," "Notes and Queries," "Editor's Questions," &c. &c.
4. Leave a space at the top and at the bottom of the paper.
5. Write your (real or assumed) name on each separate paper.
6. Always let your communications be accompanied by your name and address. For publication you may adopt any signature you please.

Thanks (for contributions, answers, kind letters, &c.)—Leumas; W. G. W.; Suum Cuique; R. McWilliam; N. Bushell; Anglo-Saxon; James Fenton; Unknown; William Morley; G. Woolmer; J. N.; W. J. D.; A. P. W.; H. N.; A. A. C.; T. J.; S. L.; C. H.; G. M. S.; J. R.; W. B.; J. J. F.; J. S.; E. T.; P. D.; C. E.; J. F.; G. More; J. D. Wagsstaff; W. Brown; A. M. B.; Ab. Sturroch; Delta; and many others.

Received.—Imprimatur; George R.; W. R.; Abercrombie; W. B.; J. S.; A. F. (*want of space*); Adela; M. A. C. (Yes); Tony.

NOTICE TO SUBSCRIBERS.

Our terms of Subscription, payable in advance, to Mr. George J. Stevenson, 54, Paternoster Row, are as follow; (stamps may be sent for small sums:—

For Six Months.—One copy, 1s. 6d.; two copies, 2s. 6d.; three copies, 3s. 6d.; four copies, 4s. 6d.; five copies, 5s. 6d.; six copies, 6s. 6d.

For the Year.—One copy, 3s.; two copies, 4s. 6d.; three copies 6s. 6d.; four copies, 9s.; five copies, 10s. 6d.; six copies, 12s.

OUR CHARGES for advertisements are, Three Guineas per page; Forty words or less, 5s.; Ten Words additional, 1s.

All orders must be prepaid. All amounts, exceeding 3s. 6d., when sent from the Provinces, should be by Post-office Order.

All the back numbers have been reprinted, and may be had of all Booksellers, or post free from the Publishers, three for 7d.

Cloth Covers for binding Vols. I. and II. are now ready, 1s. each; and will be sent post free for 12 stamps.

Vol. II. PUPIL-TEACHER now ready, price 3s. post free.

SUBSCRIPTIONS RECEIVED TO JANUARY 28TH.

(The Numbers after the name indicate the last No. of the work paid for):—

Neal, 30; Simpson, 27; Fox, 39; Passfield, 39; Rolfe, 39; Prain, 33; Rye, 33; Vale, 39; Maddern, 39; Wright, 33; Bird, 39; Francis, 39; Pitcher, 33; Franklin, 33; Duncombe, 33; Morris, 39; Lambert, 33; Lightfoot, 33; Bond, 39; Corbridge Teachers, 39; Smith, 33; Whaley, 39; Line, 39; White, 33; Copland, 33; Reynolds, 33; Priestley, 39; Shepherd, 33.

ANSWERS TO CORRESPONDENTS.

Arithmetic (D. S.)—A Pupil-teacher in his fourth year asks us whose arithmetic we would advise him to get, price not over 5s. There are so many good ones that we hardly know to which to give the preference. There is not *one*, however, that entirely meets our views with regard to commercial arithmetic. We advise D. S. to use whatever text-book his master recommends. A good arithmetician cares very little from what book he takes his examples, or if he has a choice, he has a good reason for it.

Editor's Council—*Hope on, and Hope ever*, desires, to thank W. W. for his remarks; he has derived much benefit from them.

Holidays (Recreation).—The usual Elementary School holidays are 21 days at Midsummer, 14 days at Christmas, 7 days at Easter, 2 days at Whitsuntide, and every Saturday.

Hints on Questioning (Quentin).—Good. Many thanks. If not inserted this month, it will appear in our next number.

Pachydermata (Arthenice).—"Thick-skins" (Greek, *Pachus*, thick, and *derm*, skin). The *Pachydermata* (or *Pachyderms*) are "an order of Mammalia, composed of thick-skinned, hooved quadrupeds, which do *not* ruminate or chew the cud." The question is too simple for *Notes and Queries*.

Simple Questions (Numerous Correspondents).—The answer which we have just given to "Arthenice" is a fair specimen of the kind of answers with which our periodical might, every month, be filled if we chose. To some it would appear almost incredible how simple are the questions asked by Pupil-teachers in their fourth or fifth years, and even by masters and mistresses. We shall, for the future, give more attention to our Correspondents' questions. We shall always be glad to answer what questions we can, or to give what information we can to those who really need our help. But we wish now to give a very gentle *hint* to many who are too lazy to study, or to refer to well-known and easily-accessible works, and to those who ask questions "because they have nothing else to do."

Scripture Weights and Measures (T. H. T.).—We thank you for the trouble you have taken, but we do not think that the majority of our readers would thank you or us for your contribution were we to publish it. There are few teachers indeed who have not some book which contains "Tables of Scripture Weights and Measures." For your letter and other contributions, accept our thanks.

Writing (Ex Improviso).—You evidently hold your pen too *stiffly*, consequently the writing has a "laboured" appearance. (*Patience*).—We like your style of writing; it is very superior to that miserable scratching sprawl vulgarly called "angular" hand. (*F. G. P.*).—Neat, but you must discontinue the use of pencilled lines; they are not evenly ruled, but if they were, the habit is bad. (*W. V.*) Yes, we think your handwriting "passable," but from a Pupil-teacher in his fifth year something better is reasonably expected; such handwriting as yours is easily improved; it is *bold*, and that in itself is a "good mark." (*R. K.*).—A very "promising" hand. (*Rufus*).—Very neat, but rather too stiff. (*Brutus*).—Good, of the commercial-clerk genus. (*W. P. D.*).—Good. (*E. H. H.*).—Yes. (*Zenobia*).—Very neat and promising. (*Dido*).—The right sort, but you seem to want confidence; you will gain that by practice. (*E. Waldus*).—Good; write "yours," not "your's." (*W. T.*).—Miserable. (*J. B.*).—Very indifferent. (*J. S. W. Latymer*).—Excellent, but you have (twice) written "perphaps" for "perhaps." (*Sapere Aude*).—Neat; endeavour to make the letters more uniform. Some of your capitals (*e. g.*, Q and E) might be improved. (*Mary Q.*).—Very slovenly, you can do better; try.

Battles (J. R.).—In this, or in any early number, you will find your plan discussed. It is evident that its adoption is a mere question of re-arrangement.

Nervousness (Pupil-teacher, L.).—Become a *regular* correspondent. You want confidence. You will, we hope, find something to suit you in our present number.

Biography (Friar Tuck.).—There are so many cheap works on the subject, that we think that we had better not, *as a rule*, adopt the plan at present.

Essays on School Subjects (Friar Tuck.).—A very good suggestion. Can you not set the example? We think you can. Try.

Drawing (F. A. Thomas).—

Derivation (W. G. W.).—"What is the derivation of the word *hope* as applied to mountain vales, such as Burn-hope, &c?" It is *op*, or *ope*, (Scandinavian), viz., a place sheltered by a hill side.

History of the Book of Common Prayer (Eleve).—The subject is not suitable. We recommend you to get Berens' History of the Book of Common Prayer (published by the Society for Promoting Christian Knowledge.)

Criticism (J. W.).—The letter is ungrammatical, but what shall we say of the criticism?

An agreeable P.S.—F. Gillespie writes: "P.S.—Sir, I am happy to inform you that three of my companions have agreed to become subscribers to your much-admired work, the *Pupil-Teacher*."

Plagiarism (W. G.).—We do not think that our correspondent's remarks applied to such contributions as yours. A captious, would-be critic, might bring a plausible charge of plagiarism against any of our best authors. Our correspondent very properly called our attention to a practice we sincerely trust is unusual amongst our readers. Our leading article has a few words on the subject.

Fourth Year (Dafyd's brother).—Take courage. Persevere. Pray. Hope better things than you fear; and, it may be, you will achieve more than you even hope to accomplish.

Differential Calculus (W. G.)—We are quite of your opinion. We observed the mistake to which you allude, it was one very likely to occur under the circumstances. The answer which appears, or which will appear, saves much unnecessary trouble, and we avoid establishing a precedent for an objectionable plan.

Bunyan's Pilgrim's Progress (P.)—The cheapest large-print and really complete edition is that published by Collingridge, City Press, Aldersgate Street. It is large 8vo, strongly bound in cloth, (pp.), with all the notes. The price is 2s. 6d.

First Attempts (J. T. T.)—It affords us real pleasure to find that our article on Encouragement has been productive of so much good. Your letter and *First Attempt* were the precursors of many similar letters and many first attempts. Persevere and prosper!

The Pupil-Teacher's Aim (A "P. T.")—Not quite up to the mark. Read *one* verse in print:—

"We have a holy trust,
A talent in our care,
And use it well we must,
Nor to despise it dare."

Amplification of the Broad-sheet (J. B. S.)—We hope to bring the subject of your letter before our readers next month.

Church Missionary (Enthusiast).—Yes. Write to the Secretary of the Society for Promoting the Gospel, or to the Secretary of the Church Missionary Society.

Derivations (Vivat Regina).—"Richardson's" Dictionary is the *best*; but it is expensive. "Reid's" is cheap. There is a very cheap edition of "Webster's" published, we think, by Ward and Lock.

Civil Service (E. H. H.)—Address your inquiries to the Editor of the "Civil Service Gazette."

Interesting facts concerning the Bible (Rufus).—They have been frequently published; but we may find a corner for them some day.

Good Wishes (Pen).—Many thanks. Your hints are judicious, and your efforts prove your good wishes sincere. We believe that we shall "go on" well now.

Encouragement (R. G.)—You are heartily welcome. "Long expected come at last!"

First Attempt (Margaret C.)—We should like to hear from you again.

Pupil-teachers' Dress.—We might fill a number by publishing the communications which we have received on this subject from Pupil-teachers, male and female, from masters and mistresses, managers and parents. Right glad we are to find that our remarks gave so much satisfaction. We take no credit to ourselves; it is our duty to defend Pupil-teachers from such uncalled-for insults.

Recreative Exercises (Lisa, Excelsior, and Ich Dien).—Had you sent us the names in detail, it is probable you would each have seen your contribution in print this month.

Attorney without apprenticeship to a lawyer (An Admirer).—The Editor of the *Law Times* says "Certainly not."

Assumed Names.—Next month we intend to publish a list of signatures which have been adopted by regular correspondents. Those who desire to make any alteration, or to have any *nom de plume* appropriated to them, are requested to communicate with us on the subject before Monday, the 16th instant.

Questions too trivial, unnecessary, or we cannot answer.—X+Y.; E. U.; S. M. T.; F. P.; A. B.; A Pupil-teacher; E. J. T.; T. H.; One; Hope for Ever; Mechanic (there are so many other points to be considered); E. H. H.; Mary B.

Too late for this Month.—Asmonian; Mr. H. N.; A Sturrock; A Village Pupil-teacher (we wish we could have used your contribution).

"Compliments of the Season."—For the very many kind letters which for the last fortnight we have received we most cordially thank our friends. They will, we know, excuse our not printing the long list of signatures. In each instance, we reciprocate the kind sentiments expressed.

A LARGE NUMBER OF CONTRIBUTIONS ARE IN TYPE.

THE PUPIL-TEACHER.

ADVICE GRATIS.

THE world is full of model people. True, we are all sinners; but that is taking a very serious view of things. True, the Bible says, "there is none righteous; no, not one;" but perhaps the passage is an interpolation or a mis-translation: or perhaps it applied simply to the period in which it was written. The world is full of model people. Clear it is as noon day, that those who are most punctilious in the observance of ritualistic religion delight in expatiating on the sinfulness of their hearts, as well as on the goodness of their deeds;—they are model people. The rigid formalist has a sort of morbid fancy or melancholy pleasure in styling himself the "chief of sinners;" taking good care, however, to let you see that the chief of sinners is a model which, if you cannot imitate, you ought to admire. Religionists are prone to ape the self-abasement of the parabolical publican, and of the great apostle of the Gentiles; they are prone to ape it to a degree which would be ludicrous were it not detestable;—they are model people. Glibly they talk of sin; they tell you they feel its influence, but they remind you that in Holy Writ the unpleasant fact is recorded, "there is none righteous; no, not one." They seem to be too good, and always to have been too good, to experience or to require that soul-stirring sense of guilt which prompted the publican's prayer. They so nearly personify righteousness, that you must not expect them to have that keen appreciation of perfect purity and holiness, that dread of retrogression, and that ebullience of gratitude for sovereign grace, which characterized the great apostle of the Gentiles. Formal religion has its manners and customs, its stereotyped phraseology, its conventionalities. The models of piety to whom we allude use terms of self-abasement and contrition much in the same way as an imperious nobleman subscribes himself the "obedient servant" of a man whom he would not deign to notice in company, much less recognize as a superior.

But we cannot always discriminate between real piety and imitation of it. We cannot read the heart. The probability is, that for one who seems to be a hypocrite and is sincere there are ten who seem to be sincere and are hypocrites.

Turn we then to the affairs of every-day life—worldly matters. Oh the multitude of model people! "Of course we have, all, our failings." Of course! This sapient declaration is the embodiment of that "charity" which "covereth a multitude of sins." John Styles is a good sort of fellow, when sober; it is true he is not often quite sober, but "of course we have, all, our failings." Mary Moggs is a good creature, clean and tidy, and industrious; she would do anything in the world to serve a friend, but she is so fond of "drawing the long bow," one can scarcely

believe a word she says. She means no harm by speaking as she does, falsehood is a *habit* of hers. Well, "of course we all have our failings." Now, there is a certain amount of selfishness inherent in human nature. Once let us set aside the idea of the grace of God in the heart being the motive power of good, and we cannot see how "good works" can be ascribed to any other cause than selfishness. We help the needy, because we cannot bear to see others in need. We sympathize and condole with the suffering, because the very idea of suffering is painful to us. We strive to make others happy, because we like to see happiness around us. It follows, then, that if we can *charitably* with regard to a favourite fellow-creature gloss over as a "failing" what a holy God declares to be a heinous sin, we are not likely to be less *charitable* towards our own dear selves. "I abhor myself in dust and ashes," says one. "I acknowledge my transgression, and my sin is ever before me," says another. Well, we know you do, but it is when your misdeeds, your sins of commission or your sins of omission, have entailed unpleasant consequences; it is when the still small voice of conscience calls to remembrance what you would gladly forget for ever.

We "of the earth, earthy," are generally upon pretty good terms with ourselves. The self-complacency of the most humble-minded amongst us is rarely sufficiently restrained, never entirely subdued. No doubt it is well that so it should be. Self-complacency is, however, one of the "good things" of which one may have "too much." We may think too lightly of those faults of ours which we so mercifully extenuate in the apologetic "of course we all have our failings." We persuade ourselves, and we endeavour to persuade others, that we are model people; that "e'en *our* failings lean to virtue's side." In nothing perhaps is self-complacency more manifest than in giving *advice*.

The very act of giving advice is an indication of self-complacency arising from a feeling of competence to give advice.

Advice is a commodity more freely given than gladly taken.

Medical men are a very, very small minority of the people who proffer "advice *gratis*." But medical men who offer advice *gratis* do not give it unasked, except in some cases by puffing advertisements of quack nostrums and remedies. Few there are who do not feel themselves competent to give advice to somebody. Some there are who evidently feel themselves competent to advise *anybody*—the Premier Minister of the cabinet, the General of the army, the Admiral of the fleet, the Father of the family, the Schoolmaster and the Schoolmistress, and of course, the Pupil-teacher, are each under a disadvantage, by being out of reach of, or unmindful of, their advice. They regard public officers as "common receptacles," for "advice *gratis*." As for Editors, they are the most stupid of the stupid. If *they* would take advice, we might have newspapers and periodicals worthy of Utopia. It is astonishing what wisdom there is in certain quarters. Month after month, persons who write in "easy defiance of Lindley Murray," and dictionaries and spelling books, give us the benefit of their advice, not always deferentially, nay, not unfrequently in ludicrously authoritative terms. By way of illustration we might, if our space permitted, quote *in extenso* a letter received by us very lately from an anonymous scribbler.

ADVICE GRATIS.

The handwriting and composition is that of an errand-boy who has recently left the National School. Nevertheless, the writer deems it necessary to inform us that he is "a layman," and "at present unconnected with any school." No one who has ever ranked as a first-class scholar in a good elementary school would, in the most erratic flight of imagination, suppose the writer of such a letter a clergyman. No one of kindly feelings, who reads such a letter, but would regret that the writer *is* unconnected with *any* school, especially as Ragged-schools and adult Evening-schools are so numerous. This is by no means an extreme case. Take any little local newspaper, and you will find the great plurality "we," or "an esteemed correspondent," settling some great national question, and advising the Ministry to be warned in time—to take the judicious advice offered. Poor human nature!

Perhaps some will say that we are ungrateful. We ask for hints and suggestions. True. But when we ask for rain, we do not crave a deluge. If, becalmed, we ask for a breeze, we do not desire a tempest. If we need medical skill, we do not require to be experimented on, by the powders, potions, pills, and plasters, of a herd of charlatans. "Advice gratis," is not only proffered, but absolutely, and oft-times offensively, thrust upon persons of every age and of every condition; but the young and inexperienced are, as it were, accounted the lawful prey of those prone to advise. "Young persons should take advice" is a peg on which much mischief is hung.

The young and the inexperienced need advice. They should *take* advice—that is, be guided by it. But it is of the first importance that their advisers be competent.

Now, the great point is, how are young persons—Pupil-teachers for instance—to know who of those who proffer advice to them are competent advisers, and who are not?

Our reply is, take the advice of those whom the providence of God has set over you, whoever they may be, and however contrary their advice may be to your own unmaturing judgment, or to your own inclination. Make *them* your confidants, as they are your friends.

Limited as your experience of the world may be, it will, we believe, supply you with instances of trouble incurred by the young taking advice from ill-advisers—from companions of their own age and station, from persons of interested motives, or of ill-regulated minds.

A gets into "a scrape" at home, or at school. His companion *B* happened at some previous time to get into a very similar "scrape," and moreover, to get out of it by a very clever contrivance, with which conscience had little or nothing to do. He advises *A* to go and "do likewise." The "contrivance" was, it may be, an imaginary one on the part of *B*, for the person who would resort to such a contrivance would not scruple to tell a falsehood. But, granted that the contrivance *was* resorted to by *B*, and *was* successful, does it follow that it must be successful in the case of *A*? Again, suppose the contrivance to involve the use of unworthy means, and that it prove successful in a hundred instances, can you conscientiously account it any the more justifiable?

A sore breaks out on the body, the patient goes to a quack-doctor, who

heals it speedily; but no sooner is the sore healed than the patient finds himself weaker and weaker every day, until at length he is laid upon a bed of sickness—perhaps of death. Had he in the first instance applied to a skilful physician the sore would scarcely have received notice; the advice would have been, “Avoid irritating it; protect it from dirt.” If unction were administered at all, it would be simply emollient; the physician would direct his attention to the patient’s general state of health. We need not moralize on the simile. Again, there are *competent* medical practitioners who give “advice *gratis*,” but not from motives of benevolence; their motives are self-interested. You may leave the medical attendant who has known you from your birth, who has made your constitution his study, who knows, perhaps, as well as it is possible for man to know, what medical treatment is necessary for you; you may be allured by the offer of advice *gratis*, and even should it prove beneficial you find that, after all, you have gained nothing. On the contrary, you may find that your recovery has been less speedy, and your pecuniary loss much greater. You have had advice for *nothing*, but you have paid a shilling for what would have cost you a penny. The advice was *gratis*, but the *medicine* was costly. How many are there who will suffer all their lives from thus tampering with their physical well-being! But more, many more, must suffer all their lives from tampering with their moral well-being—from taking advice from incompetent advisers, or from self-interested advisers. Beware, dear young friends, whom you trust as advisers; and more than this, beware how you advise others. There are many mountebanks and charlatans who undertake to cure physical defects, but their number is insignificant in comparison with that of those who fancy that they can remedy moral evils. Remember

“Where men of judgment creep and feel their way,
The positive pronounce without dismay;
Fling at your head conviction in the lump,
And gain remote conclusions at a jump.”

MORAL AND RELIGIOUS TRAINING IN SCHOOLS UNDER INSPECTION.

THERE have been letters in the *Pupil-Teacher* lately (Nov. and Dec., 1859), lamenting the want of sound moral and religious training in our national schools; and it is upon this subject I wish to give a few ideas, not altogether original, but gathered, at various times, from conversations with my master and other teachers, and from various educational works, by following out which, those teachers who complain of the non-existence of moral training may be able to give some in their schools; and those who are endeavouring to give it may be encouraged to persevere.

IT being allowed, by the majority of persons engaged in any-way whatever in connexion with teaching, that all secular instruction, without moral and religious training, is worthless; and it being a rule of the Committee of Council on Education to grant no aid to any school whatever, unless it be certified that moral training is given in that school, it cannot be that the hindrance to the giving such training in National schools is the amount

of secular knowledge which Her Majesty's Inspectors, as agents of the Government, require. We must, therefore, seek for the hindrance elsewhere. It is evident that Government expects moral and religious training, as well as secular information, will be given in all schools under inspection.

Some complain that children in their and other schools have not received, and do not receive, this training. But, let me ask, why have not they? What reasons are there why it has not been given? W. W. says, "A small portion of head-education they may have, but heart-education has never been attempted." If such is the case in any school, it is an evil; but the cause must be sought before we try to remove it. W. W. gives us a clue to what he considers the cause when he says, "A certain amount of secular information *must* be got through; and *then*, if there is time, religion may be attended to; if not, it must remain untouched."

W. W. seems to consider religion a subject which, owing to having so many others to teach, has been neglected. But why should it be neglected? Is it not possible, with giving the greatest amount of secular instruction, to give good moral and religious training? To investigate the subject involved in this question would require more time than I can now spare, and therefore a few remarks must suffice.

Religion, which includes morality, cannot be taught, like secular subjects, from the black board, and in regular lessons; it must be taught chiefly by example. What is Scripture history written for? Is it not that we may be taught how to do well? Is it not, as one writer observes, "Philosophy teaching by example?" Why do we teach sacred history? Is it not that we may show *how* persons, in every position of life, of all ages, and of either sex, have *done* God's will on earth?

When Inspectors examine in Scripture history, they expect that the lessons and truths derived, facts given, have been taught also.

Religion must be taught by example at all times. Pupil-teachers have, perhaps, more influence than their masters, because, being younger, they have more sympathy with the scholars; and to teach religion well is an arduous duty, which none but the Great Teacher ever taught without an intermixture of evil. To do it requires unceasing prayer, and constant watchfulness over words, thoughts, and actions, both in the school and out of the school; for a single word will sometimes cancel all the good that may have been taught, after a great deal of labour, in a half-hour's lesson.

Children should be taught to *do*—not merely what to do. Obedience, which some have said a child's religion consists for the most part of, must be inculcated and *exemplified* by the teacher. What is the use of instructing children in the duties of the Christian religion if, day after day, prompt obedience is not demanded and obtained from them while in their classes?

There need be no time lost from the lessons in secular instruction, in order to give moral and religious training; both *must* be given, not according to any set form, not after notes of lessons drawn up with study and attention at home, but must be given constantly, in every lesson, at every time, as well in the play-ground and street as in the school-room.

David Stow, feeling the want of a moral and religious training in cities, has given to the world his "Moral Training System;" the reason why it has not been adopted as a whole, in Church of England Schools, is, that, like every other single system of teaching, it has faults, which may be partly removed by amalgamation with others.

There exists, even among teachers, much error, and many vague ideas concerning the duties of the teacher and the province of the school. Many forget some of the ends of education—to make the future generations good members of society; to prevent future strikes and riots, to elevate the working classes, and make our workmen *thinking* men.

Isabella Lever says, "There are national evils, national crimes, and national follies, which I am afraid they (the scholars) never hear of when they are children." As a general rule, children should be made as little as possible acquainted with evil. Good examples should be set before them to follow, rather than bad examples to eschew.

Were it so that every one called Evil, evil, and Good, good, then we need not fear telling children of the evil in this world; but Falsehood, ever changing, dresses herself in the most charming and seductive colours, and, calling herself Truth, beckons mankind to follow; and how many, in the simplicity of childhood, follow her until, too late, they find out her true character.

Let us teach children that there is only *one* right way. Never let them learn that others doubt the truth of God's Word, or they will doubt too. Let us never teach that, "some say one way is right, and others say another way is right; but *we* believe *this* way is right." Let us teach and *exemplify* that only one way, the way of holiness, truth, honesty, and uprightness, is the way to happiness here and hereafter.

This subject requires more elucidation and illustration, but time will not permit it at present, although I may, perhaps, take it up at some future time.

ROBERT M'INWAN.

TEACHERS, "LOOK TO JESUS;"

A WORD TO SABBATH-SCHOOL TEACHERS.

WE all recognize our Saviour as the great exemplar and model, whom all preachers and teachers should imitate; but daily experience evidences the fact, that many *practically* ignore His mode of teaching; and in many instances base their mode of procedure upon quite different premises.

Bringing one or two of our Sunday-school methods of instruction into juxtaposition with those of our Lord, we shall see they are "found wanting."

1. We never find Jesus dividing His subject into general principles, and descending to particulars—commencing with the complex, and ending with the simple—deducing the concrete from the abstract—teaching the known from the unknown—the natural from the spiritual. No; but we do find Him condescending to tell the story of a poor, unfortunate traveller, journeying alone—attacked—robbed—stripped—left weltering in his own blood—shunned by Priest and Levite—observed by a Samaritan, who stops

—looks—it may be, weeps—alights—ministers unto his *enemy*—provides for present necessities—stipulates for future wants. Just as the keen perception of the inquiring lawyer was drawing its own conclusions from this interesting and *well-known* narrative, embodying nothing but what was simple, concrete, natural, Jesus broke the thread of his deductions by asking "Who was his neighbour?" From this short lesson was taught the ennobling principle of universal brotherhood. Yes, Jesus taught synthetically, naturally. His was the *constructive method*—"Go thou," fellow-teacher, "and do likewise."

2. Many of our Sunday schools are held in day-school premises, adequately supplied with maps, charts, prints, &c.; but how rarely are these aids brought into requisition; how rarely do we address the *eye* of our scholars, as well as the ear. The use of a map before a class, engaged in reading the Acts of the Apostles, would be a nineteenth-century Sunday-school anomalism! Where is Jesus? Oh, there He is, in Capernaum, encircled by His twelve scholars, who are eagerly waiting His reply to the proposition, "Who is the greatest?" In the absence of a scripture print at hand, He gently leads a little, timid, innocent, blushing child—a beautiful *picture*, yea, an embodiment of innocence and humility—a *living* epistle, *known* and read of all of them—and places him in their midst. After they have read this *natural* picture, Jesus supplies the spiritual, viz., "Whosoever, *therefore*, shall humble himself as this little child, the same is greatest." Yes, Jesus employed the *illustrative method*—"Go thou," fellow-teacher, "and do likewise."

3. "Please, teacher (said a little girl, after reading the latter part of Luke xvi.), if I get to heaven, shall I be able to talk to father, who died very wicked, and I'm afraid went to the wicked place?" "You're a very naughty little girl," frowned her teacher, "for interrupting the class by asking such questions." The little girl's soul shrank back, folded itself up like a half-opened bud in an unexpected frosty night. She didn't trouble her teacher again. Where is Jesus? He is sitting *conversing* with a very learned (?) Pharisee, a ruler of the Jews, a master in Israel, who is answering and interrogating his Lord and Master. Yes, Jesus employed the method of *suggestive interrogation*—"Go thou," fellow-teacher, "and do likewise."

Kingswood Hill.

R. B.

FILIAL AFFECTION IN THE GREAT DESERT.—We dismounted at the door of a spacious tent in the centre of the encampment. No sooner had our sheikh touched the ground than he was affectionately embraced by his son, a fine boy of about fifteen. This scene at once brought to my mind some incidents recorded in Scripture, and seemed, in fact, to realize the interesting narratives of patriarchal times. The youth placed his hands on his father's neck and kissed each cheek, and then they leaned their heads for a few seconds, while embracing, on each other's shoulders. Precisely similar was the scene at the meeting of Jacob and Esau, nearly four thousand years ago. "And Esau ran to meet him, and embraced him, and fell on his neck, and kissed him."—*Porter's Five Years in Damascus.*

BATTLES, &c., IN FEBRUARY.

ARRANGED by the Editor from the *nine* best lists, supplied up to January 16th, 1860 :—Ebenezer Turner (*B*); James Rider (*γ*); Anglo-Saxon (*δ*); W. L. Wild (*α*); William Rowe (*β*); Thomas L. Simpson (*ε*); G. M. Sharp (*δ*); M. M. Edwin (*ε*); James Fenton (*f*) [See *Battles* inf. NOTES TO CORRESPONDENTS, p. 55.]

1st.

- 1461 Battle of Mortimer's Cross, *δ* (see 2nd)
 1643 Capture of Cirencester, *δ* (see 2nd)
 1649 Surrender of Charles I, *d*
 1793 War declared by France against England, *b, c, e, β, γ, δ* (see 4th)
 1797 Surrender of Mantua, *α, β, ε* (see 2nd)
 1810 Surrender of Seville, *α, f*
 1812 Battle of Brienne, *d*
 1814 Battle of Brienne, *c, f, β, (2nd Battle, δ)*
 1814 Battle of Roithiere, *α, β, γ, δ*

2nd.

- 1140 Battle of Lincoln, *β (1142, b, d)*
 1142 Battle of Lincoln, *b, d, (1141, γ)*
 1461 Battle of Mortimer's Cross, *b, c, d, β, γ* (see 1st)
 1643 Battle of Cirencester, *β, γ, (see 1st)*
 1645 Battle of Inverlochy, *f*
 1762 Capture of Martinico, *e*
 1788 Siege of Gibraltar ended, *b, β, γ*
 1797 Capture of Mantua, *c, γ, δ, (see 1st)*
 1798 The Pope driven from Rome, *b, e*
 1799 French Revolution began, *α*
 1799 Capture of Rome, *α, e*
 1810 Capture of Guadaloupe, *b, c, β, δ*
 1814 Battle of Brienne, (2nd day), *f*

3rd.

- 1512 War declared against France, *e* (see 4th)
 1655 Expedition to the West Indies, *d*
 1660 Monk's entry into London, *b, δ*
 1774 Rebellion in Massachusetts, *d*
 1781 Capture of Island of St. Eustatia, *e* (see 8th) (2nd day, *β*)
 1807 Capture of Monte Video, *α, b, c, δ (1806, f)* (continued, *β*)
 1812 Capture of the "Amythyste," *c*
 1814 Capture of the "Terpsichore," *α*
 1814 Siege of Dantzic, *d*
 1853 Release of Samgar by Sir H. Rose, *b*
 1858 Battle of Phogneepore, *γ*

4th.

- 1512 War declared against France, *α, b, e, (see 3rd)*
 1793 War with France began, *b*

- 1798 Capture of "Le Papillon," *e*
 1804 Battle of Gwalior, *d*
 1811 Battle of Pertichi, *α*
 1814 Battle of Gorcum, *α*
 1856 Destruction of Fort Nicholas, *γ, δ*
 1858 Battle of Chowree, *b*

5th.

- 46 a.c. War in Africa, *c*
 1679 War with France ended, *b*
 1757 Battle of Plassy, *α, b, c, β, γ*
 1760 Siege of Arcot, *β*
 1782 Capture of Minorca, *α, b, c, e, β, γ, δ*
 1791 Battle of Velore, *β*
 1792 Battle of Seringapatam, *β*

6th.

- 1705 Battle of Franstadt, *β*
 1739 Nadir Shah entered India, *d*
 1778 War declared against France, *α, b, e, δ*
 1797 Loretta pillaged, *α, b, e*
 1806 Defeat of the French Fleet, *α*
 1806 Battle of St. Domingo, *b, e, f, β, γ, δ*
 1807 Battle of Hoff, *f*
 1810 Recapture of Guadaloupe, *α*
 1814 Capture of Chalons, *α*
 1853 Insurrection of Milan, *β, γ*

7th.

- 1461 Battle of St Albans, *c*
 1512 Battle of Bologna, *β (Siege of, γ)*
 1690 Battle of Cavan, *δ*
 1807 Battle of Eylau, *α* (see 8th)
 1807 Battle of Schweidnitz, *f*
 1814 Capture of Troyes
 1849 Fall of the Sikh Empire, *d*
 1852 Insurrection at Milan, *α, c, d*
 1858 Battles of Sehorah (India) and Etawah, *α*

8th.

- 1082 Capture of Durazzo by Normans, *β, γ*
 1221 Battle of Bisham, *δ*
 1653 Battle off Portland, *c*
 1807 Battle of Eylau, *β, c, d, f, γ, δ* (see 7th)
 1810 Surrender of St. Eustatia, St. Martin, and Saba, *c* (see 3rd)

- 1813 Battle of Pellaw Surr, *a*,
 1857 Battle of Bushire, *d*
 1857 Battle of Korshat, *β* (Kooshab, *γ*, *δ*)
 1857 Capture of Khooshap, (Persia), *γ*

9th.

- 1727 Battle at Gibraltar, *a* (see 11th).
 1744 Battle off Toulon, *a*, *b*, *c*, *β*, *γ* (10th *δ*)
 1760 Defeat of Lally, *β*, *γ*
 1760 Surrender of Arcot, *β*, *γ*
 1797 Capture of Ancona, *γ*
 1798 Capture of Rome by the French, *δ*
 (see 10th)
 1801 War with France ended, *b*
 1814 Battle of Nogent-sur-Seine, *f* (see
 2nd)
 1846 Battle of Sobraon, *f* (see 11th)
 1851 Battle of Mostar, *γ*

10th.

- 1652 Attack on Portsmouth, *a*, *b*, *c*
 1653 Victory off Portsmouth, *δ* (see 18th)
 1666 War declared between England and
 France, *γ*
 1798 Capture of Rome, *b*, *c*, *β*, *γ* (see 9th)
 1808 War between Russia and Sweden, *a*
 1809 Capture of the "Hebe," *a*
 1814 Battle of Champ Aubert, *a*, *δ*
 1846 Battle of Sabraon, *γ*, *δ* (see 9th)
 1858 Battle of Bardilly-road, *a*
 1858 Battle of Holdwance, *b*
 1858 Battle of Byherce, *δ*

11th.

- 1727 Siege of Gibraltar, *β* (see 9th)
 1756 Capture of Geriah, (E. I.) *c*
 1756 Capture of Angria, *β*
 1799 Capture of Isle Arish by France, *δ*
 1803 Capture of Sasnee
 1811 Battle of Lalesat, *a*
 1846 Battle of Sobraon, *a*, *c* (see 9th)

12th.

- 1429 Battle of the Herrings, *a*, *b*, *d*, *e*,
β, *γ*
 1652 Naval Battle between the English
 and the Dutch, *d* (see 18th)
 1692 Massacre of Glencoe, *γ* (see 13th)
 1755 Battle of Geriah, *β* (see 11th, 1756)
 1782 Capture of Calicut, *β*
 1810 Capture of Feroe, *a*
 1810 Capture of Iceland, *a*
 1812 Capture of "Le Rivoli," *c*
 1812 Battle of Montmorail, *f*
 1814 Battle of Champ Aubert, (2nd), *a*,
δ, (see 10th)
 1820 Capture of Valdivia by the Rus-
 sians, *c*

13th.

- 1668 War with Spain ended, *b*
 1668 War with France, *c*
 1691 Massacre of Glencoe, *δ*, *e*
 1692 (*f*.) *β*
 1693 (*g*.) (see 14th)
 1782 Capture of St. Christopher's, *f*
 1799 Capture of Civita Vecchia, *a*
 1805 French entered Naples, *β*, *γ*, *δ* (see
 1815)
 1809 Capitulation of Saragossa, *δ*
 1815 France entered Naples, *b*, *c* (see
 1805)

14th.

- 1592 Massacre of Glencoe, *d* (see 13th)
 1782 Capture of Island of Nevia, *a*, *b*, *δ*
 1797 Defeat of the Spanish Fleet, *a*, *b*,
 (off Cape St. Vincent), *β*, *γ*, *δ* (see 16th)
 1809 Capture of Saragossa, *f* (see 20th)
 1813-14 Defeat of France by Wellington, *b*
 1814 Battle of Janvilliers, *a*, *δ*
 1814 Battle of Helette, *f*
 1814 Battle of Vauchamp, *γ*
 1814 Defeat of the Prussians near Chateau
 Thiery, *c*
 1853 Destruction of Rangoon, *δ*

15th.

- 1214 John of England invaded France, *γ*
 1461 Battle of St. Albans, (2nd), *δ* (see
 17th)
 1656 War declared by Spain against
 England, *b*, *c*, *β*, *γ*, *δ*
 1763 Prussian seven years War ended, *b*
 1782 Battle in E. I. between English and
 French Fleets, *c* (see 17th)
 1783 Siege of Gibraltar, *d*
 1798 Capture of Rome, *δ*, *γ* (see 10th)
 1804 Defeat of French Squadron in E. I., *c*
 1814 Battle of Garri, *a*, *f*
 1816 Capture of Angar Fort, *a*

16th.

- 1759 Siege of Madras abandoned by
 Lally, *γ*
 1796 Capture of Amboyna, *b*, *c*, *f*, *β*, *γ*, *δ*
 1796 Surrender of Trincomalee, *f*
 1797 Battle off Cape St. Vincent, *c* (see
 14th)
 1808 Battle of Pampeluna, *β*
 1814 Battle of Fontainebleau, *a* (see 17th)

17th.

- 1461 Battle of St. Albans (2nd) *b*, *d*, *f*,
β, *γ* (see 16th)
 1544 Battle of Ancram, *δ*
 1782 (See 15th), *b*, *β*
 1810 Capture of Amboyna, *a*, *b*, *γ* (2nd
 time *δ* (see 16th, 1796))

- 1814 Battle of Nangis, *a*
 1814 Battle of Fontainebleau, *a, d* (see 16th)
 1814 Battle of Arrivenete
 1855 Battle of Eupatoria *d*
 1857 Evacuation of Crimea by Allies, *c, d* (see 18th)
 1859 Defeat of the Rebels in Oude, *γ*
 18th.

- 1803 Capture of Stirling Castle, *δ*
 1652 Battle of Portland, *a, b* (see 12th)
 1653 Defeat of Dutch Fleet by England, *d, β, γ, δ* (see 12th)
 1762 Capture of Martinique, *b, c, β, δ*
 1782 Capture of Montserrat, *a, b, c*
 1797 Capture of Trinidad, *b, f, β, δ*
 1799 Capture of El Arish, *b, c, b*
 1814 Capture of the "Serida"
 1814 Battle of Monteran Bridge, *a, δ*
 1814 Recapture of Mixron and (see 19th) Megninemra Fort, *a*
 1814 Battle of Bray Bridge, *a, δ*
 1815 Capture of Candy (Ceylon), *a* (19th *γ*)
 1857 (See 17th) *a*

19th

- 1559 Capture of Surat, *γ*
 1653 Defeat of De Ruyter near the Downs, *d* (2nd day) *γ, δ* (see 18th)
 1758 Capture of Aleide, *β*
 1758 Capture of Lys, *β*
 1807 Pass of the Dardanelles, *β, γ, δ*
 1809 Capture of "Le Junon," *a*
 1858 Capture of Futteypore, *a*
 1858 Capture of Chandah, *a, b*
 1858 Capture of Humerpore, *b*

20th

- 1653 Blake's Victory, *c, γ* (3rd day *δ*) (see 19th)
 1760 Capture of French "Blonde" and "Terpsichore," *c* (see)
 1760 Thurnot's attempt in Ireland, *a, b, c*
 1803 Capture of Candy, *δ* (see)
 1805 Battle of Bhurtpoor, *β*
 1813 Battle of Bejar *a δ* (Bejai *f*)
 1830 Defeat of Russia by Poles, near Prague, *b, c, δ*
 1831 Battle of Praga, *β*
 1843 Capture of Hyderabad by the British, *γ*
 1846 Occupation of Lahore, *c, f, δ*

21st.

- 1642 Monk entered Dublin, *b*
 1760 French land in Ireland, *β, γ* (see)
 1797 Surrender of Trinidad, *c, γ*
 1805 Repulse of French at Dominica, *b*
 1809 Capture of Saragossa, *a, d* (see)

- 1810 Capture of Amboyna, *β*
 1812 Capture of the "Rivoli," *a*
 1813 Capture of Ogdenburgh, *a*
 1830 Battle of Praga, *b* (2nd day *δ*) (see 20th)
 1849 Battle of Goojerat, *b*
 1849 Siege of Goojerat *d, γ, or Goozerat, β, δ*
 1849 Battle of Saxarat, *f*
 1858 Attack at Alumbagh, *a, δ* (Alumbagh, *f*)
 1858 Repulse of Sepoys by Outram, *b*

22nd.

- 1643 Bombardment of Burlington, *δ*
 1744 Battle off Toulon, *f*
 1760 Defeat of Shah Alurn, *β*
 1797 French landed at Fishguard, Wales, *a, b, c, e, β, γ, δ*
 1799 Capture of the "Africa" by the British, *c*
 1809 Capture of Saragossa, *b* (see 21st)
 1814 Battle of Orthes, *f*
 1832 Battle of Ancona, *f*
 1845 Revolution in Poland, *d*
 1847 Battle of Bueno Vista *γ* (2nd day *δ*)
 1848 Revolution in Paris began, *d*
 1853 Caffre War ended, *d*

23rd.

- 1727 Siege of Gibraltar, *d*
 1809 Capture of Martinique, *γ, β* (2nd time *δ*) (see 24th)
 1809 Capture of Ratisbon by French, *δ*
 1813 Battle of Kalitch, *a*
 1813-14 Stopford attacked by the French, *b*
 1814 Recapture of Gerona, *a*
 1814 Capture of Troyes, *f, δ* (see 24th)
 1832 Capture of Ancona, *γ, β*
 1840 Siege of Madrid, *β, γ, δ*
 1841 Chinese War began, *β, δ*
 1858 Battle of Badshahgunge, *δ*
 1858 Battle of Sultanpore, *b*
 1858 Capture of Merangunge by Hope Grant, *b, δ*
 1858 Battle of Meangunge, *γ*

24th.

- 1803 Capture of Roslin, *f, δ*
 1476 Battle of Albuera (1st) *β*
 1479 Battle of Albuera (2nd) *β γ*
 1524 Siege of Pavia, *d* (see 1525)
 1525 Battle of Pavia, *b, f, β, d, γ, δ* (see 1524 *d*)
 1563 Civil War in France began, *β*
 1563 Siege of Orleans, *γ*
 1648 Battle of Junkowitz, *f*
 1758 Battle of Hoya, *a, b, c*
 1793 Capture of Breda, *a, b, c*

- 1797 Surrender of French at Fishguard
δ, β, δ
1809 Capture of Martinico, *a, δ, β, γ*
1809 Capture of Fort Bourbon, *f*
1814 Capture of Troyes, *β, γ* (see 23rd)
1826 Burmese War ended, *γ*
1841 Evacuation of Chusan by British,
β, γ, δ
1848 Paris Revolution began, *a, c* (see
22nd)
- 25th.
1782 Surrender of Minorca, *f*
1794 Surrender of Bellegarde, *γ*
1799 Capture of Gaza, *b, c, β, δ*
1807 Battle of Braimsberg, *δ*
1814 Battle of Orthes, *a, β, γ* (see 27th)
1814 Capture of the "Clorinda," *a*
- 26th.
1266 Battle of Benevento, *β, γ*
1760 Baher Invaded, *β*
1798 Capture of Rome by the French, *c*
1799 Surrender of El Aryeh, *f*
1813 Capture of Island of Ponza by the
British, *c*
1814 Capture of Barsuraube, *a*
1815 Napoleon Buonaparte left Elba, *a, β, γ*
1826 Burmese War ended, *β*
1826 Capture of Ava by the British, *γ*
1858 Capture of the Ghoorkas (Fort) at
Berozepoor, *b*
- 27th
493 Battle of Ravenna, *c*
1797 Capture of Jaffa, *a* (see 28th, 1799)
1814 Battle of Orthes, *b, c, δ* (see 25th)
1814 Capture of Orthes, *f*
- 1814 Defeat of Soult by Wellington, *d*
1814 Battle of Bar-sur-Aube, *γ*
1814 Capture of Bordeaux by British, *δ*
1853 Caffre War ended, *d, e, β* (see
22nd)
1857 Mutiny at Berhampore began, *c*
1859 Surrender of Simput (India), *γ*
23th.
1301 Battle of Roslin, *f* (see 24th)
1408 Battle of Bramham Moor, *γ, δ* (see
1438)
1438 Battle of Bramham Moor, *δ, β*
(see 1408)
1674 War with the Dutch ended, *δ*
1733 Battle of Babylon, *a, b, e*
1734 Battle of Ronli-Ran, *a*
1758 Battle between French and Eng-
lish squadron in West Indies, *c* (off
Cape de Gatt, *γ*) (see)
1758 Capture of Foudooyant and Orphee
by the British, *c*
1760 Defeat of Thurnot, *γ, δ*
1793 Battle of Aldenhaven, *a, b, c*
1797 Wales invaded, *d* (see)
1799 Capture of Jaffa, *δ* (see 27th, 1797)
1801 War between Spain and Portugal
began, *a, b*
1811 Occupation of Oldenburg by the
French, *γ, c, β*
1814 Battle of Ayre, *f, β*
1824 War in West Africa began, *d*
1857 Indian Mutiny began, *d*
29th.
1808 War between Denmark and Sweden
began, *a*
1813 Capture of Ponza, *a*
1856 Hostilities in the Crimea ended, *δ*

We shall be glad to receive corrections or additions. We intend to arrange each month the *six* best. The lists for March should be sent in *not later* than Saturday, the 18th instant.

Authors differ so much with regard to dates, that we shall give six different dates for one event, should each of our six contributors forward them. We hope, however, that each contributor will be able to refer to his authority, should the accuracy of his quotation be questioned.

TRUTH AND FICTION.—The scene of Wilson's "Noctes Ambrosianæ" is Ambrose's Tavern in Edinburgh; yet Mr. Chambers states in his journal, on Wilson's own authority, that the Professor never entered that tavern but twice in his life! In like manner, Sir Walter Scott confessed that, notwithstanding his exquisite description of Melrose by moonlight, he never saw the old abbey under the light of the moon.

SELF-DENIAL.—There never did, and never will exist, anything permanently noble and excellent in a character which is a stranger to the existence of a resolute self-denial.

Editor's Exercises.

HISTORICAL GEOGRAPHY.

6. Write out methodically and briefly historical notes relative to Dorking.
7. Write out methodically and briefly historical notes relative to Putney.

BIOGRAPHY.

1. Write out methodically and briefly biographical notes relative to Admiral Blake.

ANSWERS: HISTORICAL GEOGRAPHY.

1. (p. 16) KENDAL.
 Arranged by the Editor from the *six* best papers:—H.P.S. (1); William Shaw (2); R. R. T. (3); Zenobia (4); R. N. R. (5); X. (6).
 Particulars marked thus (†) are supplied by the Editor.
 Particulars marked thus (*) are supplied by all or by several.
 KENDAL, or more properly, Kirkby-in-Kendal, is situate on the northern extremity of the Lancaster canal. (4)
 It is on the river Ken, or Kent. (*)
 It is the largest and most important town in Westmoreland. (*)
 It is agreeably situated in a valley eighteen miles in length. (5)
 The name signifies the *dale* (valley) of the Ken (or Kent). (†)
 It is the most northern point to which the canal navigation of England extends. (1)
 There are, in the town, three stone bridges over the Kent. (5)
 Woollen manufactories were established here by Flemish weavers in the reign of Edward III., and the trade has been carried on ever since. (*)
 The town was for many centuries famous for the manufacture of a kind of baize, called "Kendal Green," of which the dress of the lower classes was made. (†)
 This cloth the archers used to wear; the old song says:
 "How fine they look'd, arrayed in Kendal green." (3)
 Particular laws were enacted for regulating Kendal cloths as early as the reigns of Richard II. and Henry IV. (2)
 The weekly market was established by a charter of Richard I. (2)
 Queen Elizabeth incorporated it with aldermen and burgesses (2); in 1576. (†)
 James I. incorporated it with a mayor, recorder, town-clerk, 12 aldermen, 24 burgesses, and 2 attorneys.
 It has the ruins of a castle built in the 11th century. In this castle Queen Katherine Parr was born. (*)
 In 1597, about two thousand of the inhabitants died of the "pestilence." (†)
 On the west side of the town, opposite to the castle, is an ancient earthwork called Castlelaw hill; on its summit there is an obelisk commemorative of the Revolution in 1688. (2)
 The town was invested by the Pretender's forces in 1715. (*) October (1) 6th November. (†)
 [The following are all supplied by the Editor.]
 It was a Roman station, and the remains of Roman fortifications are still visible in the town and neighbourhood.
 The Grammar School was founded in 1525.
 Dr. Thomas Shaw, the celebrated Oriental traveller, was a native of Kendal, and was a scholar in its Grammar School (born in 1692, died Principal of St. Edmund Hall, Oxford, 1751.)
 Kendal was the birth-place of the famous botanist, John Wilson, a stocking-weaver by trade. He died about the year 1750.
 The learned Edmund Law, Bishop of Carlisle (1769—1787), was also educated in Kendal Grammar School before he entered St. John's, Cambridge; (born 1703.)
 Amongst the celebrated Earls of Kendal were:—
 John, Duke of Bedford, son of Henry IV. and brother to Henry V. (died 1435.)

John de Beaufort, Duke of Somerset (1443-4).

Prince George of Denmark, consort of Queen Anne (created April 9, 1689.)

The only Duke of Kendal was Charles, an infant son of James, Duke of York (afterwards James II.), who died in 1666.

The only Duchess of Kendal was Madame Schulenberg.

HISTORY.

7. (p. 17.) HENRY VII.

It was a perplexing point to Henry himself as to what ground he had to rest a title to the throne. He had no just claim to advance as a member of the Lancastrian House, in consequence of his descent from an illegitimate branch, expressly debarred from the honours of Royalty, by the Act which awarded to it all the other rights and privileges of legitimacy.

To have relied alone upon his projected marriage with the Princess Elizabeth of York would have involved a measure of dependence distasteful to his temper, and humbling to his pride, besides completely undermining his position in the event of her death without issue.

Though personally inclined to assert the right of Conquest, it was a plea far too obnoxious, both to friends and to foes, to be advanced, since, according to the current impressions of the age, the alarming consequence of a general forfeiture of lands held of the conquered prince might be drawn from it.

But, without specifying any particular grounds of title, the following may be said to be the rights that Henry had:—

(a)—A Lancastrian origin.

(b)—A Yorkist marriage.

(c)—A Victory.

R. W. EDEN.

Good answers also from Alfred Morris; Leonidas; Philomathes; A. G.; Lancastrian; Thomas E. Jones; Prince Charlie; S. M.; Margaret Cleminson, M. Thgurb; A. T. H. S.; Robin Hood; James Hepple; William Rowe; Salvator Rosa.

Notes and Queries.

* * We wish it to be distinctly understood that we do not guarantee that all the notes, replies, &c., are correct. Criticisms on lessons, parsing, &c., are requested. The Subscribers to the "Pupil-Teacher" should consider themselves as members of a Mutual Improvement Society, and regard our periodical as their medium of intercommunication.

Our Notes and Queries are of three classes:—

I.—Mathematical.

II.—Philological, including Grammar, Paraphrasing, Composition, &c. &c.

III.—Miscellaneous, including all questions on subjects of Study or Method. Questions of Discipline or Management, affecting Pupil-teachers, are discussed in the EDITOR'S COUNCIL.

In sending answers, merely refer to the number and page thus:—"Mathem. No. —, p. —;" "*Philol.* No. —, p. —;" "*Miscell.* No. —, p. —."

N.B.—The *number* refers to the *query*, not to the "Pupil-Teacher."

MATHEMATICS: PROBLEMS, &c.

23, (JOSEPHUS).—A person lays by one-fourth of what he spends. His income is diminished, whilst his expenditure remains the same. He finds that he lays by only half the former sum. How much was his original income diminished?

24. (H. WATSON).—If the numerator of a certain fraction be added to the denominator, the result will be equal to five times the numerator, what is the fraction?—*Queen's Scholarships Examination, 1858.*

PHILOLOGICAL: QUERIES, &c.

7. (JOSEPH FRENCH).—Paraphrase the following and parse the words in italics:—

. Motionless he *sits*
As is the *rock*, his *seat*, gazing whole *days*
With wandering eye on all the watery waste,
Now *striving* to believe the *albatross*,
A *sail* appearing on the horizon's verge.

8. (PEDAGOGUE).—Analyse the following, and parse the words in italics:—

Not to relent is beastly, savage, devilish—
Which of you *if* you were a prince's son,
Being pent from liberty *as I* am,
If two such murderers *as yourselves* came to you,
Would not *entreat* for life?

MISCELLANEOUS: QUERIES, &c.

9. COMMERCE OF SCOTLAND (*Otho*).—A history short but full.

10. WRITING (*Thomas Gay*).—A few practical rules for writing.

ANSWERS.

PHILOLOGICAL: PARSING, &c.

2. (p. 11).—Arranged by the Editor from the *six* best papers: S. Taylor (1); Leonidas (2); Robin Hood (3); Pen (4); Mira (5); R. McWilliam (6).

The asterisk (*) denotes *all*.

The *twelve* next best papers (some received after the parsing was ready for the press) are those of Rosa Villa, Alphonso, Johannes Davies, James D. Sievwright, A. W., Fortinbras, William Bowers, Samuel Moss, H. T. Brickhill, Silex, B., and Ichabod.

Nobility.—Noun, coll. 4, com. coll. 6, com. 1, 2, 3, prop. 5, plur. 1, 2, sing. 3, 5, 6, com. g. 5, 6, mas. g. 1, 3,—obj. *

Peerage.—Same as "nobility." (app.) *

Lords.—Same as "nobility" and "peerage," (app.) 1, 2, plur. n. (app.) 3, com. n., masc., plur.,—obj. 4.

Lords-temporal.—Comp. prop. n., in app. with "nobility" 5.

Temporal.—Adj. referring to "lords" 1; qual. "lords" 2, 3, 4, 6.

As.—Conj. 1, 4, 6; rel. pron. agr. with "lords," nom. to "forming" 2; adv. of manner, mod. "to consider" 3, 5.

Forming.—Act. part. gov. "branch" understood 1; gov. "one" 4; pres. part. of "form" 2, 3, 6; pres. trans. part. gov. "one" 5.

Together (omitted by 1).—Adv. mod. "forming" 2, 3, 4, 5; qual. 6.

One.—Num. adj. (ord.) qual. "branch" understood 1, 3, 6; num. adj. pron. obj. gov. by "forming" 2; com. n., sing., neut., obj. gov. by "forming" (or as 1, 3, 6,) 4, 5.

According to.—Prep. *

Titles.—Com. n., plur., neut., obj. *

MISCELLANEOUS. ANSWERS, &c.,

5 I think if "EX IMPROVISO" looks attentively to the context of the extract he has given from Cornwell, he will find an explanation. It runs as follows:—

"The cold of Siberia is so intense, that, at a few feet below the surface, the soil is constantly frozen. The hot, but short summer, cannot thaw more than four or five feet of the soil. It is said too," &c.

PEN.

8. (p 12). THE COTTON MANUFACTURE IN ENGLAND.

I. *Its Early History*.—Cotton was used in India and China as a material for the manufacture of woven fabrics many centuries before it was introduced into Europe. Herodotus mentions the cotton fabrics of India, saying that the natives made their garments of a cloth obtained from a wool-bearing plant. Neither the Jews, the Egyptians, the Greeks, nor the Romans appear to have known much of the cotton manufacture, although linen was in frequent use among them. It is very probable that cotton was introduced into the western countries by the followers of Mahomet, Italy and Spain being the first European countries in which the manufacture was carried on; but in the beginning of the sixteenth century, cotton was used as a material for the manufacture of clothing in nearly all the countries bordering on the Mediterranean Sea.

II. *Its Introduction into England*.—It is not until the middle of the seventeenth century that we find any distinct mention made of the cotton manufacture, as being carried on in England; for, although the cotton trade is the most important and prospering of all our great departments of manufacture, it is, at the same time, the most recently established of them. In the early part of the seventeenth century, a large number of Protestant refugees arrived in this country from the Netherlands, and by them the cotton trade was introduced into this country. The cotton was not used alone at this time, but was mixed with linen, the warp being composed of linen and the weft of cottons; the cotton as it was then spun not being sufficiently strong to be used alone. But in 1769 this fault was overcome by an invention, by Arkwright, and since that time the manufacture has rapidly increased. In 1750, the number of pounds of the raw material imported was less than three millions, but in 1800 it had increased to more than fifty-six million pounds.

III. *The Cotton Plant*.—Cotton is the produce of a plant belonging to the same natural order as the holyoak and the mallow. Its usual height is one and a half or two feet, although there are plants which attain to a much larger size; but the cotton produced by them is of an inferior quality. The cotton plant flourishes in a poor soil, and the best kinds are obtained from South Carolina, Georgia, and Florida; large quantities are also obtained from India, West Indies, Brazil, Egypt, and Turkey. The cotton seeds are planted in rows, and when they come up the plants are thinned and weeded. In about five months the flower appears, and is followed by the seed pod, which also contains the cotton. When the seeds are ripe, the pod bursts, and the cotton must be gathered immediately, or it becomes discoloured. The cotton is gathered in the morning to avoid the action of the sun on the fibre, and none is gathered in wet weather, as the moisture would produce mouldiness. The cotton, after being separated from the seeds, is packed in bags for exportation, and, in order to economise ship-room, it is reduced in bulk by being subjected to an enormous pressure.

IV. *Its Manufacture*.—The cotton when unpacked is not in a fit state for the spinner, it is clotted and entangled, and has to undergo the process of carding; which is very similar to the common operation of combing the hair. The cotton is next spun into thread by a machine, which was invented by Arkwright and improved by Hargreaves; before this invention, this operation was performed by means of the spindle and distaff. The spun thread, or cotton-yarn, is then ready for the weaver. The machine used in this part of the manufacture is called the loom; but by various changes in the mode of combining the weft with the warp, a vast variety of fabrics are woven from cotton—such as cambric, muslin, velvet, corduroy, fustian, &c.

ARE EYE.

TESTIMONIALS.—To William Hillidge, by the Pupil-teachers of the Moral and Industrial Schools, Swinton, on the completion of his apprenticeship, and leaving the Schools for Peterborough Training School, a beautiful Reference Copy of the Holy Scriptures, with an accompanying Book of Common Prayers, as a slight, but true token, of their respect and affection.

To Alfred Bright, four of "Mauder's Treasuries," by the Managers and Master of the South Hackney Parochial Schools, on completing his apprenticeship.

The Editor's Council.

Communications under this head are earnestly solicited from managers, masters, and mistresses.

In all answers the real name and address of the writers will be considered indispensable, not necessarily for publication, but as a guarantee of good faith.

The questions are given exactly as they are sent.

The number of the question should be given with the answer. (The number in brackets at the end of the question, is that of the letter in which the question is asked. It is merely for the Editor's convenience of reference.)

1. (p. 21). EDITOR.—We have received a letter signed “Mrs. C—E,” who professes to feel “interested in the replies to Annie.” Her children, she says, attend the school, and on their statements, she asserts that the suppositions put forth by Leumas are totally incorrect, &c. &c. She requests us to insert her letter. Had she given us her real name and address, in confidence, we would gladly have published such a vindication of Annie. Anonymous letters must always be regarded suspiciously. [814.]

4. S. S.—I am now in my third year. My master insists upon me managing my class in the following manner, which means I have tried for a long time, but cannot succeed: I have not to send a boy out—not to keep any in after school—not to take any to him—not to speak cross to them, &c. I am denied the privilege of punishing them in any way or manner, but yet I must not have disorder at any time; if I have, I am severely reproofed before the boys, and he says it is my own fault—I try my very best to have order. Sometimes he sends me away from the class for a time; the scholars, seeing me so disgraced, take advantages. I wrote a note to the master about this, but to no effect—before he read half of it, he told me, in a cross way, to take it, saying, he did not want my notes. [901.]

Notices of Books.

MONTHLIES

1. *Recreative Science*.—A monthly Record and Remembrancer of Intellectual Observation. Price 8d. Groombridge and Sons.
2. *The Family Treasury of Sunday Reading*. Price 6d. Nelson and Sons.
3. *The Penny Post*.—An illustrated Magazine for all Readers. 1d. John Henry and James Parker.
4. *Old Jonathan*, or the District and Parish Helper. 1d. W. H. Collingridge.
5. *The English Journal of Education*. 6d. G. J. Stevenson.
6. *The School and the Teacher*.—A monthly Journal of National Education. 3d. G. J. Stevenson.
7. *The National Society's Monthly Paper*.—An educational periodical adapted to the wants of the promoter, manager, and teacher, of Day as well as Sunday Schools. 2d.; by post 3d.; or 2s. 6d. a year, paid in advance. National Society's Depository.

These works are all so admirably adapted to the classes of readers for which they are designed, that in future we shall give, each month, their “contents,” and direct particular attention to any unusually attractive or useful articles. We shall now content ourselves by giving an outline of the character of each:—

1. *Recreative Science* is a work which will please and greatly instruct intellectual readers of every denomination. To Pupil-teachers in their 4th or 5th years we

strongly recommend it; it is a work which will be useful to them all their lives, and it will be an invaluable, and, when bound, a beautiful addition to any library.

2. *The Family Treasury of Sunday Reading* is a Protestant periodical of "Evangelical" sentiments, suited for adults as well as children, for teachers as well as scholars. Clergymen of the Church of England and Dissenting Ministers of various denominations contribute to it. It is unquestionably the cheapest and best work of its kind.

3. *The Penny Post* is the best and cheapest periodical of "moderate High Church" principles. It is an interesting and reliable authority on matters of Church History, doctrine, and discipline.

4. *Old Jonathan* is a broad-sheet (*folio*) "Evangelical" in principle, and decidedly Protestant. It is beautifully illustrated, and besides its *distinctive* articles, it contains excellent occasional papers on subjects of general interest. Pupil-teachers of the religious principles advocated by *Old Jonathan* would do well to become subscribers to it.

5. *The English Journal of Education* is the oldest Educational periodical published in this country. For information respecting higher-class education, and for the discussion of the Educational topics and literature of the day, it is still unrivalled.

6. *The School and the Teacher* is the Monthly Journal of National Education in its widest sense. It relates to denominational as well as to Church Schools. It is rich in material for lessons on school subjects. Those Pupil-teachers who can, should become contributors to it, as well as to the "Pupil-Teacher."

7. *The National Society's Monthly Paper* is a valuable Educational periodical. Its correspondence and practical papers are serviceable to all connected with the management or instruction of elementary Church Schools.

My Country—The History of the British Isles. By E. S. A. London: Wertheim and Co., 1859. Part II., cloth, 18mo, pp. 156. Price 1s.

This cheap and well-compiled history contains a vast amount of information not generally given in school-books of History. When we say that the "profits will be given to the Society for Irish Church Missions to the Roman Catholics," it is unnecessary to state a "partial" view of certain great questions is taken.

The Crumbs for Chickens Reading Book. By ROBERT FLOYD, C.M., sometime Head Master of the Maidstone Model School. London: J. C. Tacey, 1869. Price 2d.

We are sorry that we cannot recommend this little book. Here is a specimen of *The Crumbs* :—

"A hog can grunt in his sty."

"I think Su-san is proud of her new bon-net, *which* is a very silly thing."
If the prose is bad, the rhyme is worse, *e. g.*,

"A tai-lor I should like to be
Old jac-kets *for* to mend."

"A tru-ant is a idle boy
Who must be ca-ned I fear."

A gentleman may be Master of a model school, and not be a model master—he may be a Model master, and not a model Author.

The Essentials of Spelling. Elementary Series for Home Lessons. By E. JONES, Hibernian Schools, Liverpool, and J. EVANS, British Schools, Carnarvon. London: F. Pitman. Price, paper covers 1d., cloth 2d.

Very cheap and very good. We strongly recommend every Pupil-teacher to get a copy.

Pronunciation of the French Language, as spoken in the middle of the nineteenth century. By MONSIEUR DARQUE. London: Longman and Co., 1859.

Good of its kind, but we are chary about recommending Pupil-teachers to *speak* French merely from the information here conveyed respecting pronunciation. Those who have the advantage of a teacher will derive good from a careful perusal of Monsieur Darqué's work

EXAMINATION OF CANDIDATES FOR QUEEN'S SCHOLARSHIPS.—
CHRISTMAS, 1859. :

RELIGIOUS KNOWLEDGE.

Three hours allowed for this Paper.

Candidates may not answer more than *one* question in each section.

SECTION I.

1. Write out the prophecies spoken to Abraham when God first called him, and their fulfilment.
2. Write out a short account of Abraham's temptation to offer up his son Isaac, and explain how Abraham showed faith on that occasion.
3. Describe the meeting of Abraham and Melchizedek, and the circumstances which led to it.
4. Write out a short history of Naaman the Syrian.

SECTION II.

1. Give an account of the death and burial of Joshua.
2. Relate the circumstances connected with the visit of the angel to Manoah.
3. Write out a short account of the book of Ruth.
4. Describe the translation of Elijah into heaven, with the circumstances which preceded it.

SECTION III.

1. Show that the Pharisees were—(a) hypocrites, (b) perverters of God's word.
2. Quote texts from the Sermon on the Mount, to prove that Christ urged upon His disciples Forgiveness of others.
3. Write out the parable of the Net which gathered of every kind, and explain it.
4. Write out the parable of the Prodigal Son, and explain it.

SECTION IV.

1. Quote a text from the New Testament to prove the existence of angels, and mention some occasions on which they have appeared.
2. Show how our Lord, by precept and example, taught humility.
3. Write out some of the texts in which the Holy Ghost is promised, and state the offices attributed to Him.
4. Give a short account of the institution of the Sacrament of the Lord's Supper, with the circumstances connected with it.

SECTION V.

1. What are the chief things to be learned from the Apostles' Creed.
Explain why the answer to this question in the Church Catechism makes use of different *senses* in its paragraphs.
2. Write out a short explanation of the Tenth Commandment, illustrating your statement by texts and examples from the New Testament.
3. Give reasons for infant baptism; and explain why the Church of England requires god-parents.

SECTION VI.

1. Prove, from the "Exhortation," that the Church of England approves of a public service in which the Bible should be read and prayers offered up.
2. "According to Thy promises declared unto mankind, in Christ Jesu our Lord."
(a.) Where do these words occur?
(b.) To what do the "promises" refer?
(c.) Prove your statement from Holy Scripture.
3. What power does the Church claim for God's ministers in the absolution? and in what words does she show that God alone can forgive sins?

SECTION VII.—(SCOTLAND.)

N.B.—*Two Questions to be answered, in place of Sec. V. and VI.*

1. Quote the answers to the questions that begin the great divisions of the Shorter Catechism.

State in the words of the Catechism the benefits of *Justification, Adoption, and Sanctification*, (a) in this life, (b) at death, and (c) at the resurrection.

Show how you would exercise a class on the answer to the question "What is the Christian's duty?" so as to secure their understanding of the analysis, construction, and pointing of the answer.

Write out a short explanation of the Tenth Commandment, illustrating your points by texts and examples from the New Testament.

(To be continued in our next.)

(IN ORDER OF MERIT) OF QUEEN'S SCHOLARS (MALES).

CHRISTMAS, 1859.

First Class Scholarships of £23, with a Personal Allowance of £4.

The names printed in *italics* are those of candidates who, not having been Pupil-teachers, are admitted to compete for Scholarships, under the Minute of the 2nd of June, 1856.

NAME.	SCHOOL.	NAME.	SCHOOL.
O.	Kendal, N.S.	Bird, J.	Birmingham, St. Mark's N.S.
J.	King's Somborne N.S.	Brown, A.	Whitstable and Seasalter Ch. S.
J.	Worsley (Manchester) N.S.	Bull, W.	Burnham (Norfolk) N.S.
W.	Leeds, St. George's N.S.	Chappell, G. F.	Halesworth N.S.
S.	Leeds, St. Paul's N.S.	Clarke, A. W.	Kensington Free S.
B. T. P.	Bedminster N.S.	Gornall, J.	Kirkham, N.S.
B.	Central London District P.U.S.	Hughes, T.	Chester Diocesan S.
H.	Heywood, St. James's N.S.	Jarvis, E.	Marylebone, Ch. Ch. N.S.
d. W.	Ipwich, St. Peter's N.S.	Jones, W. J.	Carnarvon N.S.
.....	Macclesfield, Ch. Ch. S.	Margoschis, J. T.	Warwick Borough N.S.
P.	Coventry, St. Michael's N.S.	Pink, W.	Stockwell, St. Michael's N.S.
R.	Bury St. Edmunds, St. James's N.S.	Prim, J. G.	Exeter, Central N.S.
f.	Douglas, St. Barnabas	Shields, J.	Manchester Cathedral S.
T.	Bray Holyport N.S.	Spendlove, J.	St. Ives N.S. (Hunts)
.....	Calne, Middle S.	Tamplin, T. J.	Tidenham N.S.
W.	Lewes, St. Michael's N.S.	Wainwright, E.	Middle N.S.
.....	South Kennington, St. Barnabas	Bosomworth, J. W.	York, St. Cuthbert's N.S.
J.	Warminster N.S.	Collings, W. G.	Bloomsbury, St. George the Martyr
J.	Ipsstones N.S.	Crocker, W. H.	Bayswater N.S.
.....	Loughboro', Lancastrian	Davies, J.	Kersall, St. Paul's N.S.
J. A.	Cheltenham, Trinity Infant School	Hallums, G.	Floekersbrook, Ch. Ch. N.S.
W. H.	Bromsgrove N.S.	Pay, E. S.	Faversham, Central S.
G.	Farnworth N.S.	Taylor, H. G.	Glastonbury N.S.
D.	Dringhouses N.S.	Taylor, C.	Norwich Model S.
T.	Saffron Hill, St. Peter's N.S.	Thomas, A. H.	Oxford, St. Paul's N.S.
.....	Chelsea, St. Mark's Practising School	Webb, G. W.	Harrow N.S.
J. J.	Cheltenham, Ch. Ch. N.S.	Burgoyne, J.	Nottingham, Trinity N.S.
Waite, R.	Lancaster N.S.	Evans, D.	Whittringham N.S.
W.	Birmingham, St. Stephen's N.S.	Fedarb, E. H.	Canterbury Model School
.....	Leeds, All Saint's N.S.	Gilbert, J. G.	Nottingham, St. John's N.S.
W.	Charterhouse, St. Thomas	Graham, J.	Newcastle, St. John's N.S.
an, H.	Rugby, Trinity N.S.	Holmes, G.	Brighton, Warwick, Street N.S.
J. G.	Bloomsbury, St. George the Martyr	Jones, G.	Tynter N.S.
W.	Manchester Birch, St. James's N.S.	Kent, S.	Hastings, All Saints
W. A.	Westminster, St. Stephen's N.S.	Lake, J. E.	Colmington N.S.
ter, C.	Battersea Parochial S.	Linstead, H. C.	Minute 2nd June
P.	Colchester, St. Magdalen	Locke, W. R.	Lancaster N.S.
.....	York and Ripon Practising S.	Neal, W.	Bury St. Edmund's, St. James's
.....	Arundel N.S.	West, W.	Stallridge N.S.
G. E.	Kildwick N.S.	Brown, H. C.	Exeter Central N.S.
.....	Eastwood N.S.	Buckner, J. W.	Portman Chapel S.
.....	Ipwich, St. Peter's N.S.	Darney, T.	Walmersley Ch. N.S.
D.	Narberth N.S.	Greenhalgh, W.	Heywood, St. Luke's N.S.
		James, W.	Wantage N.S.
		Jones, R.	Minute 2nd June
		Kenst, J.	Plymouth, Charles S.
		Mort, G. A.	Bolton, St. George's N.S.
		Pearce, R.	Liverpool, Toxteth, St. Thomas's N.S.
		Richmond, G.	Bolton, Lancaster, N.S.
		Yates, T.	Birstall, N.S.

NAME.	SCHOOL.	NAME.	SCHOOL.
Brierly, E.	Preston, Trinity N.S.	Kelland, S. J. B.	Western Hove N.S.
Bromlow, W.	Liverpool, St. Luke's N.S.	Repton, H.	Berwick-on-Tweed Charity S.
Dawson, D.	Satterthwaite and Rusland N.S.	Schofield, J. C.	Leeds, St. Philip's N.S.
Emsley, R.	Manchester, Redbank, St. Thomas's N.S.	Searles, C.	Norwich Model S.
Grindley, R.	Carnarvon N.S.	Smith, W.	Maldstone, Trinity N.S.
Jefferson, S.	Leeds, St. George's N.S.	Spensor, F. H.	Nottingham, Trinity N.S.
Rees, W.	Llanstephan N.S.	Turnage, J. M.	Paddington, St. Mary's N.S.
Vincent, W.	Windermere, St. Mary's N.S.	Weston, G.	Eastbourne, St. Mary's N.S.
Bannister, J. S.	Exmouth N.S.	Atkins, T.	Botley N.S.
Berriman, J.	Charterhouse, St. Thomas	Beach, W. E.	Oldbury, Chance's S.
Bloor, H.	Wilton N.S.	Cookes, C.	Cirencester N.
Buckley, J.	Buglawton N.S.	Cook, W.	Halstead, Trinity N.S.
Ellis, J.	Rochdale Par. Ch. S.	Ditchett, E.	Westminster, St. James' N.S.
Foister, J. S.	Thurmanston N.S.	Gibbs, H.	Weymouth, Trinity N.S.
Foster, W. G.	Rawtenstall, St. Mary's N.S.	Harrop, W. T.	Lowdham N.S.
Hall, S.	Davenham N.S.	Holt, W.	Farnham N.S.
Hart, W.	Halberton N.S.	Kimpton, J. G.	Worcester Diocesan Practising S.
Hughes, W.	Holyhead N.S.	Lane, T.	Everton Ch. Ch. N.S.
Lewis, P.	Llantrisant N.S.	Moss, J.	Weston (Herts) N.S.
Pease, J.	Buckingham N.S.	Phillips, W.	Tamworth N.S.
Prade, T. A.	Marazion, Sir C. Cole's S.	Pledger, T.	Walthamstow, N.S.
Reynolds, W.	Islington, All Saints' N.S.	Plaw, P.	Eagle-cliff N.S.
Rusling, J. W.	Cleckheaton N.S.	Sprague, T. G.	Bengeworth, St. Peter's N.S.
Rydings, B.	Fallsworth N.S.	Thomas, J. V.	Ketley N.S.
South, B.	Madeley N.S.	Armour, W. E.	Deptford (Durham) N.S.
Spray, F. C.	Hastings, St. Mary's N.S.	Arnold, E.	Betley N.S.
Wix, Thomas W.	Henley-on-Thames N.S.	Bassel, A.	Penkridge N.S.
Blacker, S.	Chelsea, St. Mark's Practising S.	Beale, W. R.	Royston N.S.
Bridge, T.		Bee, G.	Sheffield, Trinity
Hall, T.	Preston, St. Thomas's N.S.	Carr, T. G.	Frant N.S.
Hutton, H. S.	Bidford N.S.	Dallison, J.	Brompton (Kent) N.S.
High, W.	Islington, All Saints' N.S.	Dewse, W.	York, Walmgate N.S.
Maddock, W.	Whitchurch, Salop N.S.	Edwards, R.	Exeter N.S.
Roberts, D.	Shelton N.S.	Harris, J.	Rugby, St. Mathew's N.S.
Sladen, A.	Derby, Carron Street N.S.	Hollamby, G. C.	Plaistow, N.S.
Wallace, J.	Berwick-on-Tweed Charity S.	Jennings, A.	St. George, Hanover Square District S.
Wither, J.	Holborn, St. Andrew's Trinity District S.	Kerswell, T.	Kirkdale Industrial S.
Farmer, T.	Kidderminster, St. George's N.S.	Maidwell, E. C.	Ipwich, St. Mathew's N.S.
Gatchouse, J. W.	Wistcott N.S.	Moore, T.	Butleigh N.S.
Hughes, A.	Saffron Walden N.S.	Morris, R. J.	Carlisle Ch. Ch. N.S.
Humphrye, J.	Fennard N.S.	Pyatt, I.	Cheadle N.S.
Mabey, J. G.	St. Mary Church N.S.	Roal, J. M.	St. Ewe N.S.
Magrath, J.	Forest Row N.S.	Scott, J.	Crosby-on-Eden N.S.
Morster, W.	Great Queen Street Wes.	Sugg, W.	Yeovil N.S.
Moss, H.	Whitechapel, St. Marks S.	Teare, Philip.	Foxdale N.S.
O'Hara, J.	Kirkdale Industrial S.	Timbrell, W. A.	Cirencester N.S.
Phillips, J.	Cleghonger N.S.	Ungoed, W.	Llannon, N.S.
Stirrup, T.	Edinburgh, St. John's Episcopal	Wilson, G.	Castle Garth, St. Nicholas N.S.
Tandy, C.	Hagley, Lord Lyttleton's S.	Birley, H.	Doncaster N.S.
Williams, E. C.	Holloway, St. James's N.S.	Brown, M.	Rawtenstall, St. Mary's
Wright, W.	Lambeth, Princes Road, St. Mary's N.S.	Cragg, E. B.	Quernmore Ch. S.
Bastian, W. C.	Carn Thomas, St. Mary's N.S.	Darling, C. M.	Liverpool, South, Ch. of E.
Bush, J.	Islington, St. Michael's N.S.	Grose, S. T. W.	Lenton, N.S.
Butler, J.	Oxford, St. Paul's N.S.	Heasman, W.	Brighton, Central N.S.
Caine, J. J.	Douglas, St. Barnabas N.S.	Knight, R.	Kingsbury, N.S.
Dixon, F. T.	Margate, Trinity N.S.	Lloyd, I.	Bilston, St. Mary's N.S.
Dooley, B.	Salford, St. Barth's N.S.	Manser, W.	Pimlico, St. Michael's N.S.
Down, W.	Castle Hill N.S.	Matthews, H. T.	Cambridge, St. Paul's N.S.
Pulljames, W. G.	Portsea Island P.U.S.	Musgrave, W.	Bishops Auckland, Bishop Barrington's S.
Hague, W.	Sheffield, Central, Carver St. N.S.	Palmer, D.	Carlisle, Fawcett's S.
Henry, J.	Bradley N.S.	Porter, John T.	Liverpool, St. Mark's N.S.
Hosking, T.	Illogan N.S.	Powell, J.	New Arlesford N.S.
Jackson, E.	Liverpool North Ch. S.	Qualtrough, T.	Port St. Mary's N.S.
Jenvey, F.	Lymington N.S.	Sweeting, E.	Abbots Langley N.S.
		Wakom, J.	Calstock N.S.
		Bond, E.	King's Lynn, All Saints' N.S.

Second Class Scholarships of £23. No Personal Allowance.

[Anson, J. W. Wednesbury, St. James N.S. | | Bury, T. Stourport N.S.]

QUEEN'S SCHOLARSHIPS.

49

NAME.	SCHOOL.
E.	Rotherhithe, Trinity N.S.
W.	Bath, Weymouth House S.
T.	Bentley (Warwick) N.S.
S. D. G.	Deal N.S.
T.	Calne N.S.
M.	Welshpool N.S.
W.	Swinton Industrial S.
T.	Guleley N.S.
A.	Bridgenorth N.S.
A. W.	Bristol, Incorporation Poor S.
J. D.	Battersea Parochial
ds, E. J.	Birmingham, New Jerusalem S.
T.	Bentley (Warwick) N.S.
C. H.	
F. A.	Bramley Wes. S.
son, S.	Salford, Ch. Ch. N.S.
tt, J.	West Hackney N.S.
J.	Hull, St. Mark's N.S.
R. J.	Preston, St. Paul's N.S.
B.	Shipton N.S.
B.	Huddersfield, Seed Hill, St. Peter's N.S.
E. S.	Hull, St. John's N.S.
A. J.	Clifton N.S.
T.	Barnsley, N.S.
S. A.	Bristol, St. Paul's N.S.
T.	Calne N.S.
J.	Cottingham N.S.
H.	Hitchin N.S.
L. T.	Widcombe Parochial S.
J.	Wimbledon, N.S.
W. E.	Saffron Hill, St. Peter's N.S.
E.	Puckchurch N.S.
row, J.	Traverson N.S.
.....	Oldham, St. Peter's N.S.
J.	Milford Haven N.S.
W.	Manchester St. Michael's
C.	West Bromwich, Hilltop, St. James's N.S.
W.	
A.	South Hackney N.S.
nt, J.	Aston N.S.
E.	Kirkdale Industrial S.
J.	Nottingham, Trinity N.S.
R.	Treaco, Scilly N.S.
.....	Bramley (Leeds) N.S.
.....	Ipswich, St. Clement's N.S.
H.	Colchester, St. Magdalen N.S.
N.	Liverpool, St. Bartholomew's N.S.
J.	
T.	Tenby N.S.
W. H.	Balden N.S.
W.	Keighley N.S.
J.	Smallbridge N.S.
D.	Huddersfield, Trinity N.S.
J.	Hoddsleden, N.S.
T.	Bristol, H. More's S.
T.	Finedon N.S.
W.	Kingston-on-Thames Public S.
R. E.	Devonport, St. James's N.S.
T. J.	Bridgewater, Dr. Morgan's Endowment S.
M.	Glanogwen N.S.
A. B.	Caton N.S.
M.	Rockwell Green N.S.]
.....	Leeds, Little London, St. Matthew's N.S.
E.	Henley-on-Thames N.S.
S. W.	Pocklington N.S.
SH.	St. Mary Tavey N.S.
I. T.	Blackburn, St. John's N.S.
G.	Wolverhampton, St. Paul's N.S.

NAME.	SCHOOL.
Dye, W.	Yarmouth, St. Nicholas' S.
Emerson, T. O.	Blideston N.S.
Ewing, R.	Stratford, Ch. Ch. N.S.
Graham, E.	Westbury-on-Trym, Edmonds' Foundation S.
Harper, W. H.	Mariboro', St. Peter's N.S.
Hodge, H.	Portsea, St. John's
Hooke, S.	Westminster, Central N.S.
Hough, W.	
Linfort, W.	Hull, Salthouse Lane N.S.
Mildenhall, J.	Mariboro', St. Peter's N.S.
Outen, J.	West Ham N.S.
Pearson, O. D.	Brampton, Bierlow's N.S.
Phillips, J. A.	Ipswich, St. Matthews, N.S.
Renthaw, S.	Didsbury N.S.
Roberts, T.	
Roberts, H.	
Rogers, A.	Breage N.S.
Shaw, T.	Lenton N.S.
Shires, J. E.	Milbridge N.S.
Sutton, W. J.	
Train, J.	Doncaster, Great Northern Railway C.S.
Walton, A.	Calverley N.S.
Williams, R.	Liverpool Ch. Ch. N.S.
Wood, T.	Dunkinfield, St. Mark's N.S.
Wright, H.	Hallfax, Copley Factory S.
Alexander, W.	Portsea, All Saints' N.S.
Appleby, G. H.	Sheffield, St. George's N.S.
Bott, G.	Dorington Wood N.S.
Chappell, I.	Liverpool, North Ch. S.
Clucas, W.	Malew, Ballasalla
Dagliash, G. G.	Alboro' and Boro'bridge N.S.
Ebdon, J.	Wellington (Somerset) N.S.
Hughes, D.	Swansea N.S.
Johnson, E. S.	Wakefield, Trinity N.S.
Jones, J.	North Audley Street, St. Mark's N.S.
Kay, J.	Hull, Nautical S.
Learner, A. H.	St. Pancras N.S.
Montford, J.	Market Drayton N.S.
Osborne, A.	
Pierce, W.	Danebridge N.S.
Powell, W.	Cirencester N.S.
Randall, H.	Trumpington N.S.
Roberts, W. S.	Ruthin N.S.
Stannard, J.	Pakenham N.S.
Stride, J.	Everescech, Ch. Ch. N.S.
Taylor, P.	Pandebury, St. John's N.S.
Tomlinson, J.	Kendall N.S.
Turpin, W. G.	Jersey, St. Paul's N.S.
Wyatt, C. W.	Maldenhead N.S.
Barrett, J. G.	Ashford (Kent) N.S.
Beck, W. J.	Deptford Newtown, St. John's
Connor, E.	Kirkdale Industrial S.
Corcoran, D.	Gravesend and Milton N.S.
Davies, J. J.	Conway N.S.
Hamilton, G. M. E.	Rotherhithe, Trinity N.S.
Heath, F.	Battersea Park S.
Jones, T.	Bodfeirig N.S.
Magness, J.	Llantardine Endowed F.S.
Moore, T.	Port St. Mary N.S.
Nield, T.	Dunkinfield, St. John's N.S.
Phillips, J.	Liverpool, St. Augustine's N.S.
Richards, T. J.	Bristol, St. Michael's N.S.
Sanderson, J.	Bolasterstone N.S.
Short, T.	
Southern, W.	
Stacey, R.	
Taylor, S.	Burton-on-Trent N.S.
Todd, T.	Berwick-on-Elmet N.S.
Williams, J.	Llangollen, N.S.
Wildish G. H.	St. Margaret's-next-Rochester S.N.

NAME.	SCHOOL.	NAME.	SCHOOL.
Wotley, J.	Bristol, Brandon Hill, St. George's S.	Smith, W. B.	Ryde (Isle of Wight) N.S.
Buckeridge, E.	Newington, St. Mary's St.	Trobe, H.	Wedmore, J.
Corbett, J.	Highgate S.N.	Whittaker, W. E.	Nottingham, St. John's N.S.
Dickson, R.	Leeds, Quarry Hill, N.S.	William, J.	Haverfordwest N.S.
Evans, J.	Mary's N.S.	Woodward, T.	Aldboro and Boro-bridge N.S.
Ford, A.	Pembroke Dock N.S.	Coverdale, R. C.	Hull Ch. Ch. S.
Gill, W.	Staveley N.S.	Dee, H.	Wickham (Hants) N.S.
Gill, W.	Peel (Isle of Man) N.S.	Lewis, H.	Loughor Parochial S.
Hadfield, W.	Ramsgate, Christ Ch. S.	Russell, W. E.	Bilston, St. Mary's N.S.
Honeybone, J. R.	Islington, St. Stephen's N.S.	Scourse, J.	Shorten, J.
Howitt, G. H.	St. Pancras, Trinity N.S.	Threlfall, J.	Preston, St. Thomas's N.S.
Holdsworth, E.	Clayton N.S.	Walton, E.	Whittaker, W.
Hunt, C.	Portsea, All Saints' N.S.	Atkinson, C. W.	Salford Ch. Ch. N.S.
Northam, C. H.	Bristol, H. More's S.	Britter, J.	Maidstone, All Saints N.S.
Norminton, C.	King Cross, St. Paul's N.S.	Chisham, W.	Whitechapel, St. Mary's N.S.
Philip, J.	Embsay, St. Mary's N.S.	Dolman, J.	Newport, Isle of Wight N.S.
Ross, J. E.	Rawmarsh F. Grammar S.	Griffiths, T.	Newcastle Emlyn N.S.
Thomas, W. H.	Camberwell, Ch. Ch. N.S.	Hughes, H.	Conway N.S.
Agar, W.		Jones, J.	
Ainsworth, J.	Heywood, St. Luke's N.S.	Lees, J.	Oldham, St. Peter's N.S.
Bales, W.	Limehouse, St. Ann's N.S.	Le Manquaia, J.	Jersey, St. Paul's
Brady, G.	Marylebone, Portman N.S.	Mackeath, W.	Newcastle, St. Thomas's N.S.
Coomber, J. E.	Pimlico, St. Michael's N.S.	Nash, J.	Canterbury, Model S.
Crouch, H.	Broughton and Bossington N.S.	Nelson, J. P.	Hull, St. Mark's N.S.
Douson, P.	Southwell, N.S.	Plews, J.	Masham N.S.
Gerrard, W.	Wilton N.S.	Richards, G.	Manchester, St. John's N.S.
Lanrish, G.	Brighton, St. John's N.S.	Thrower, H. J.	Hoxton, St. John's
Le Huquet, F.	Jersey, St. Mark's	Viner, W.	Earl's Shilton N.S.
Naylor, R.	Bankfoot, St. Matthew's N.S.	Bartlett, J.	Plymouth, Charles S.
Nelson, J.		Berridge, W. T.	Glancford Brigg N.S.
Patrick, R.	Carnarvon N.S.	Darley, W. J.	Lincoln Central S.
Smith, G.	Abbots Ann N.S.	Day, W.	Southwark, St. Mary's N.S.
Stokoe, R.	Wolsingham N.S.	Goddard, W.	Barnley, St. James's N.S.
Udall, J.	City Road, St. Matthew's N.S.	Hardwick, W. J.	Hull, St. John's N.S.
Wilks, E.	Newington, Trinity N.S.	Ind, W.	Lacock N.S.
Banting, G. H.	Newtown (Hants) N.S.	Jenkins, D.	Pyle, Bryndon Colliery N.S.
Carpenter, A.	Camberwell, Crawford Street N.S.	Madlock, J. H.	Trumpington N.S.
Cox, W.	Lymington N.S.	Perkins, J. C.	Melton Mowbray Free S.
Cull, T.	Westbourne (Middlesex) S.	Pye, T.	Blackburn, Ho. Trinity N.S.
Dewhurst, J.	Dukinfield, Moravian S.	Sanger, T.	Yarmouth, St. Peter's N.S.
Dunn, T.	Stella a Blyndon, St. Cuthbert's N.S.	Swift, W. T.	Cheltenham, Old Church Charity S.
Lister, G.	Lincoln, North District N.S.	Ainley, A.	Sowerby, St. George's N.S.
Masten, W. G.		Bulpett, W. T.	Birmingham, St. Mary's N.S.
Parkin, A. D.	Stonehouse N.S.	Crump, C. J.	
Pearson, B. E.		Duncan, A.	
Swaine, G. C.	Maldstone, Trinity	Gawley, R.	
Brookes, F.	St. Bride's Major N.S.	Gorringe, C. W.	Bloomsbury N.S.
Cupnall, S.		Harding, A. C.	Marlboro', St. Mary's N.S.
France, E. J.	Atherton N.S.	Ibbotson, J.	Hoylandswaine N.S.
Fryer, J.	Keighley N.S.	Janes, A.	Cheltenham, Trinity N.S.
Greenlaw, J.	Driffield, N.S.	Jenkyn, W. H.	
Harrison, E. H.		Lamb, W.	St. Helen's Moorflat N.S.
Murray, M.	St. Helen's Moorflat S.	Mason, G.	Doncaster, Ch. Ch. N.S.
Pender, W.	Fresco (Scilly) N.S.	Scorey, J.	Bishopstoke N.S.
Potter, W.	Whitley N.S.	Tait, R.	
Stoth, S.	Smallbridge N.S.	Williams, C.	Milverton, N.S.
Strike, J.	Chelsea Park Chapel S.	Barker, E.	Brighdenorth N.S.
Thompson, J. H.	Woodside, Horsforth N.S.	Birch, W.	Much Wenlock N.S.
Tyler, C.	Erebfont N.S.	Broughton, M.	Pudsey Low Town N.S.
Wilkinson, H.	Bankfoot, St. Matthew's N.S.	Charnock, Q.	Deunholme Gate N.S.
Bartlett, H.		Kershaw, S.	Wyke N.S.
Belcher, T.	Wednesbury, St. John's N.S.	Lammas, J. H.	Limehouse, St. Ann's S.
Briggs, J. W.	Addingham N.S.	Marsh, G.	Canterbury Model S.
Carrington, T.	Holkham N.S.	Phillips, J.	Kingswynford, St. M N.S.
Chaffer, W.	Hull Ch. Ch. S.	Robinson, J.	East Finchbeck N.S.
Delighton, T.		Thomas, W.	
Durose, F.	Stone Ch. Ch. S.	Wheeler, J.	
Glass, H.		Axtell, G.	
Jackson, J.	Preston Ch. Ch. N.S.	Blackwell, G.	
Mawson, T.	York Manor St. S.		
Noble, J.	Rawtenstall, St. Mary's N.S.		

NAME.	SCHOOL.	NAME.	SCHOOL.
son, J. R.	Tanfield N.S.	Smith, H.	Maryleone, Nutford Place Diocesan S.
y, E.	Brighton, Ch. Ch. N.S.	Tallentire, J.	Hulme, Trinity S.
A.	Frant N.S.	Turpin, N. W.	Springfield, N.S.
H. T.	Hull, Ch. Ch. N.S.	Wilkinson, J.	Blackburn, Trinity N.S.
A.		Barnes, R. K.	Norwich, St. Stephen's N.S.
R.	Barnby Moor N.S.	Bebbingdon, A.	Bradford, Slott Hill S.
T. W.	Loughboro', Lancasterian S.	Coreutt, W.	Dudley, St. Edmund's N.S.
tt, R.	Lincoln N. District S.	Dawson, R.	Preston, St. James's N.S.
J.		Ellis, R.	Llandyrnog N.S.
G.	Warrington Heathside N.S.	Fassnago, W.	Weymouth, Trinity N.S.
G.	Rotherhithe, Deptford Road	Mattinson, E.	
ood, F.	Gloucester, St. James's N.S.	Pincott, J.	Andenshaw N.S.

(IN ORDER OF MERIT) OF QUEEN'S SCHOLARS (FEMALES).

CHRISTMAS, 1859.

First-Class Scholarships of £17, with a Personal Allowance of £3.

The names printed in *italics* are those of Candidates who, not having been Pupil-teachers, are admitted to compete for Scholarships under the Minute of 2nd June, 1856.

L.	Wantage, N.S.	Coope, M.	Jersey, St. Mark's N.S.
M.	Wellington (Somerset) N.S.	<i>Gayton, E.</i>	
M. E.	Derby, Trinity N.S.	Howard, M.	Brighton, Warwick S.N.S.
E.	Home and Colonial Model S.	Jones, M.	Liverpool, North, C. of E.S.
nt A.	York, Bishopsgate N.S.	Millburn, S.	Aylesbury N.S.
B.	Brighton, St. Nicholas N.S.	<i>Moss, A. J.</i>	
py, E.		Blunden, L.	Brown, Candover N.S.
A.	St. George, Hanover Square, United Day S.	Butler, E.	Evercreech N.S.
g, M.	Manchester, Cheetham	Gelling, M. J.	Douglas, Athol St. St. George (Isle of Man)
L.	Twynford (Hants) N.S.	Hull, M.	Lacock N.S.
	Brown, Candover, N.S.	Kennish, M. A.	Douglas, St. George N.S.
J.		<i>Killingby L.</i>	
	Cambridge, St. Paul's N.S.	<i>Parker, M.</i>	
E.	Lincoln, Central N.S.	Probart, E. H.	St. Ives' (Hunts) N.S.
S. E.	Inverness, the Bishop's S.	Rollison, M.	Tooting N.S.
E. J.	Truro, Fairmantle St. N.S.	Scarr, E.	Cambridge, St. Paul's
E.	Everton Ch. Ch. N.S.	Brown, C.	Speen N.S.
g, E. S.	Pimlico, St. Michael's N.S.	<i>Cockhott, E.</i>	
H.	St. Pancras N.S.	Cowburn, M. A.	Manchester, St. Jude's N.S.
n, H.	Neswick N.S.	Fletcher, E.	Heanor N.S.
M.	Everton Ch. Ch. N.S.	Grant, E.	Wells N.S.
A.	Marlborough, St. Peter's N.S.	Hitch, E. C.	Bristol, Gloucester, and Ox- ford Diven. Pg. 8.
	Home and Colonial Model S.	Jenkins, C. E.	Salisbury N.S.
ngton, M.	Windsor (New) N.S.	Jenkins, E.	Marrow Girls' N.S.
E.	Nottingham, Trinity N.S.	Lloyd, M.	Liverpool, South S.
	St. George, Hanover Square, United Day S.	Myatt, H.	Stoke-on-Trent N.S.
y, M.	Ilfracombe N.S.	Riley, M.	Marylebone Ch. Ch. N.S.
w, S.	Stamford N.S.	Smith, M. A.	Birmingham, St. Matthias N.S.
ck, M. A.	St. George, Hanover Square, United Day S.	Whittingham, S.	Oxton N.S.]
es, E. J.	Warrington Parl. S.	Adams, B.	Godalming N.S.
ibe, S.	Mells N.S.	Andrew, J.	Brighton Practising S.
H.	Trowbridge, Trinity N.S.	Chappell, M.	Bath, Weymouth House]S.
C. B.	Westminster, St. Margaret's and St. John's N.S.	<i>Crompton M.</i>	
S.	Reading, St. Giles's N.S.	Croxall, C.	Rolleston N.S.
E.	Saffron Walden N.S.	Knight, E.	Margate, St. John's N.S.
	Douglas, St. Barnabas (Isle of Man) N.S.	Long, R.	Oxton N.S.
A.	Brighton, Practising S.	Siburn, E. A.	Rochester, St. Nicholas N.S.
r, F. E.	Liverpool, St. Saviour's N.S.	Armstrong, E. S.	Harrow Girls' N.S.
l, E.	Halesworth N.S.	Balls, L.	Halesworth Infant S.
R.		Churchward, S. A.	Exeter N.S.
E.	Milverton N.S.	Collins, C.	Bath, Walcot, St. Swithin's N.S.
gh, P.	Durham Blue Coat S.	Daw, M. D.	Stalbridge N.S.
J.	Pen-y-parke N.S.	Denton, E.	Hull, Salthouse Lane N.S.
E.		Fiander, M. A.	Offchurch, Lady Guernsey's S.
J. S.		Isedale, C.	Douglas, St. Barnabas (Isle of Man) N.S.
S.	Walthamstow N.S.	Kelly, E. J.	Rushen Girls' S.
w, A.	Bolton, Emanuel N.S.	Poole, A.	Derby, St. Alkmunds N.S.
H.	Stepney Red Coat S.	Tilling, C.	Bolton, All Saints' N.S.

NAME.	SCHOOL.
Walker, A. M.	Walham Green, St. John's N.S.
Womersley, E.	Ripon Girls' N.S.
Beek, E.	Tiverton Infant B.S.
Grover, A. E.	Forest Row N.S.
Hallwell, E.	Shelton, Granville N.S.
Jones, E.	Mold N.S.
Munckton, E.	
Murrells, E.	Sudbury, All Saints N.S.
Oxborrow, E.	Ipswich, St. Margaret's N.S.
Proverbs, H. M.	Wednesbury, St. Bartholomew's N.S.
Rainer, T. T.	Ipswich, St. Peter's N.S.
Smith, C.	Lyncombe, St. Mark's N.S.
Andrews, A. S.	Barford N.S.
Bax, S. A.	Margate, Trinity N.S.
Blanks, E.	Limehouse, St. Anne's N.S.
Brabham, E.	Tiverton, Infant B.S.
Brown, M. A.	Rochester, St. Nicholas N.S.
Corner, E.	Hereford Blue Coat S.
Haigh, E.	Huddersfield, Seed Hill, St. Peter's N.S.
Hassell, M.	Holloway, St. James's N.S.
Hunt, S.	Moseley N.S.
Kelham, A.	Barkstone N.S.
Liddington, J. M.	Chalford, Ch. Ch. N.S.
Mills, S.	Shelton N.S.
Pruett, H.	Cleiton N.S.
Thompson, J.	Pitcadilly, St. James's N.S.
Brockman, J. E. M.	Bristol, St. James's Infant N.S.
Duck, C. M. M.	Holborn, St. Andrew's, Trinity
Gumbrill, S.	
Hare, C.	Windsor, New N.S.
Hume, M.	Witham N.S.
Leigh, S.	Blackrod N.S.
Mitchell, E.	Hockliffe N.S.

NAME.	SCHOOL.
Redcliffe, E.	Steeple Bumstead N.S.
Reilly, M.	Hastings, St. Clement's All Saints' N.S.
Thompson, J.	Pendlebury, St. John's
Coombes, B. L.	St. George's-in-the-East, St. Mary's N.S.
Freeman, E.	Ewell N.S.
Hassell, S.	Holloway, St. James's N.S.
Holder, J.	South Audley St. Groves Chapel S.
Hook, S. A.	Bray N.S.
Hyde, E.	Sheffield Parochial Ch. S.
Kidd, K. E.	Reading, St. Giles' N.S.
Lawton, M.	Marsden N.S.
Macartney, A.	Westminster, St. Stephen's N.S.
Nettleton, A.	Leeds, St. Philip's N.S.
Street, S.	Ringwood N.S.
Wheaton, M. S.	Bruton N.S.
Beaklie, C. B.	Glasgow, the Bishop's Episcopal S.
Bucklin, S.	York, St. Thomas N.S.
Cook, F. M.	St. Pancras, St. John the Evangelist District S.
Davies, M. A.	Grappenhall N.S.
Douglas, H.	Salford Ch. Ch. N.S.
Eagleton, E.	Islington, St. Peter's N.S.
Fairclimb, E.	
Haug, J.	Stanwix N.S.
McMullen, A.	Preston Ch. Ch. N.S.
Potts, J.	Burton-on-Trent Ch. Ch. Infant S.
Roberts, J.	Wolverhampton, St. Matthew's N.S.
Scharian, S. J. T.	Tharset, St. Peter's N.S.
Simpson, E.	Ipswich, St. Clement's S.
Spratt, E.	Exeter, Central N.S.
Wallis, P. S.	Cookham Dean N.S.

Second Class Scholarships of £17. No Personal Allowance.

Crabtree, J.	
Fisher, A. S.	Bloomsbury, St. George the Martyr N.S.
Fisher, E.	Camberwell Ch. Ch. N.S.
Haydon, K.	Home and Colonial Model S.
Hoyland, E.	Tankersley N.S.
Ladbury, S. E.	Limehouse, St. John N.S.
Laves, M.	
Middleton, P.	Chesterton N.S.
Pear, L.	Cheltenham, Trinity Infant S.
Sproles, E.	Bristol, Brandon Hill, St. George's N.S.
Wainwright, C. A.	Birmingham, St. Mary's N.S.
Wood, C. E.	Marylebone, Trinity N.S.
Baker, S. M.	Upton cum Chalvey N.S.
Butterfield, M. A.	Camden Chapel S., Camberwell
Cocklin, H.	South Metropolitan District P.U.N.
Godber, C.	
Horne, B.	Rugby, Trinity N.S.
Johnson, E.	Banbury N.S.
Lambert, M.	Bristol Diocesan B.S.
Pargeta, S. A.	Birmingham, St. Philip's Putnam, M.
Reed, C. N.	Bishop Auckland Industrial School
Spyer, E.	Benson N.S.
Walsh, E.	Ledbury N.S.
Boyle, A.	Leeds, Helbeck, Messrs. Marshall's Factory S.
Braid, S. J.	
Dickenson, M. A.	Sheffield, St. Mary's N.S.
Grayson, E.	Wicker, Trinity N.S.
Hidey, L.	Kensington, St. Barnabas' N.S.

Holt, S. A.	Spittlegate N.S.
Baldwin, M.	Exeter, Central N.S.
Binham, M. A.	Oxford, St. Paul's N.S.
Broadbent, H.	Leeds, St. George's S.
Girling, E. A.	Norbiton N.S.
Hobson, E.	Croft N.S.
Howden, M.	Liverpool, Windsor, St. Clement's N.S.
Hull, S.	Baldwin's Gardens N.S.
Llewellyns, M. A.	Paddington, St. John's N.S.
Marsh, E. J.	St. Helen's, Moorflat N.S.
Mears, J. P.	Camberwell, Camden Chapel S.
Padfield, L.	Wrighton N.S.
Page, S. J.	Faversham Infant S.
Rhyndhart, M.	
Richardson, E.	Heywood, St. Luke's N.S.
Robinson, M.	Yatalafer S.
Sawyer, M. M.	Hull Ch. Ch.
Taplin, E. A.	Newington, St. Mary's N.S.
Warburton, S. A.	Wicker, Trinity N.S.
Whiting, C.	Leicester, Knighton St. S.
Ellis, A.	St. Mary's (Selly Isles) Infant S.
Johnson, N.	Chelsea, St. Jude's N.S.
Jones, S.	Marylebone Ch. Ch. N.S.
Lucas, J.	South Shields, St. Stephen's N.S.
Potts, E.	Haggerston, St. Mary's
Routledge, M.	Liverpool, North, Ch. o
Sackett, H. H.	Broadstairs N. S.
Smith, E.	Liverpool, Windsor St. ments
Williams, A.	Liverpool, St. Barnabas Infant S.
Wilson, A. M.	Stoney Red Coat S.

QUEEN'S SCHOLARSHIPS.

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NAME.	SCHOOL.
Amsholme, E.	Haywood, St. Luke's N.S.
Atk, H.	
B., J. G.	St. George's-in-the-East, St. Mary's N.S.
B., M. A.	
B., E. A.	Kentish Town N.S.
Bury, C.	Acton (Chester) N.S.
By, H.	
Cway, E. C.	Gloucester, St. James's N.S.
D., A.	Everton, St. George's N.S.
D., C.	
Debury, E.	Preston, St. Thomas's N.S.
D., S. E.	Halifax, St. James's Infant S.
D., Roy, E.	Barford N.S.
D., A.	
D., H.	Brompton (Kent) N.S.
D., son, M. A.	Westminster, St. Mary's N.S.
D., said, H.	Kensington Free S.
D., as, S.	Carmarthen N.S.
D., J.	Tetbury Infant S.
D., ea, E.	Witham N.S.
D., S., M. A.	Uckfield N.S.
D., H.	Bath, Weymouth House
D., ook, M.	Leeds, St. George's S.
D., S., E. S.	Stamford N.S.
D., on, M.	Stockton-on-Tees Industrial S.
D., M.	Liverpool, South S.
D., on, E.	Northampton, St. Giles's N.S.
D., son, M.	Derby, Curzon Street N.S.
D., L.	Huddersfield, Seed Hill, St. Peter's N.S.
D., S., A.	
D., red, M. A.	Northampton, St. Giles's N.S.
D., T., A. O.	Bedminster N.S.
D., ing, E.	Woolwich N.S.
D., R. S.	Mayfield N.S.
D., M., E. H.	
D., ckson, E.	Derby, Trinity N.S.
D., nan, A.	Penrith N.S.
D., sh, S.	Home and Colonial Model S.
D., on, A.	Witham N.S.
D., in, E.	Bathnal Green, St. Bartholomew N.S.
D., nd, M.	Warnham N.S.
D., ngpriet, M.	
D., er, E. L.	Charlton King's N.S.
D., p, H.	Whitstable and Seasalt N.S.
D., E.	Tetbury N.S.
D., ston, J.	Preston, Christchurch S.
D., ason, M.	Iver N.S.
D., worth, E.	York, Aldwark N.S.
D., am, M.	
D., S.	Langton Maltravers N.S.
D., M., S. E.	Great Marlow N.S.
D., mas, L. J.	Everton, Hampton Street Infant S.
D., n, M.	Haworth N.S.
D., ridge, E.	Watermoor Trinity N.S.
D., on, H.	Hoylake N.S.
D., loe, C.	Ipswich, St. Helen's N.S.
D., M., A. E.	Sheffield Par. Ch. S.
D., by, M. F.	Limehouse, St. John's N.S.
D., mason, M. F.	Huddersfield, St. Paul's N.S.
D., M. A.	Bethnal Green, St. Bartholomew N.S.
D., r, A.	Preston, Central S.
D., T., C.	Halifax, Haley Hill S.
D., C.	
D., S., B.	Burton-on-Trent, Ch. Ch. S.
D., S., H. K.	St. George's-in-the-East, Ch. Ch. N.S.
D., M.	Bedminster N.S.
D., woff, M. A.	Bolton, Trinity S.
D., M. A.	Plymouth, Charles S.

NAME.	SCHOOL.
Wilkins, J.	Reading, St. Mary's N.S.
Williamson, G.	Lancaster N.S.
Birbeck, S. A.	Cheltenham, St. Mary's Infant S.
Bowen, C.	North, Alderman Davies's S.
Eastcott, E.	Kelly, Ch. of England S.
Edgar, E.	Manchester, St. Anne's N.S.
Embleton, S.	Carlisle, Ch. Ch. N.S.
French, M. A.	Birdbrook N.S.
Goldstone, M. A.	St. Pancras Ch. Ch. N.S.
Holden, A.	West Derby N.S.
Hopwood, E.	Madeley (Salop) N.S.
Ingram, H.	
Leddra, H.	Sutton, St. Helen's N.S.
Mason, C. M.	Birkenhead, Trinity N.S.
Murfin, S.	Kagworth N.S.
Platts, J.	Derby, Trinity N.S.
Mickard, M.	Stanford, Rivers N.S.
Roberts, E.	Canterbury, St. Paul's N.S.
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Stanley, C.	Blandford N.S.
Thurkle, F.	Sanbury N.S.
Wyver, C. E.	Canterbury, St. Paul's N.S.
Allen, J.	Clapham, Bowyer, St. John's N.S.
Alley, G.	Bromley (Middlesex), St. Leonard's N.S.
Ball, E.	
Barber, E. M.	Camberwell Ch. Ch. N.S.
Bladen, M. A.	Moseley N.S.
Ellis, C. F.	
Harber, E.	Chichester Central S.
Humphreys, E.	Swansea Infant S.
Jackson, F. H.	Newington, Trinity N.S.
James, M. A.	Exeter, St. James N.S.
Jones, C.	Walham Green, St. John's N.S.
Mackinson, A.	Astley N.S.
Marsh, L. S.	Kensington, St. Barnabas N.S.
Morgan, E.	Leeds, St. Philip's
Nicholson, R.	Leeds Ch. Ch. N.S.
Philipson, E.	South Shields, St. Stephen's N.S.
Porter, H.	Stepney, Trinity N.S.
Pritchard, E.	Marple N.S.
Sinden, E. J.	Maidstone N.S.
Warrington, M.	Derby, Trinity N.S.
Watts, J. E.	Portsea Town N.S.
Allez, E. A.	Guernsey, St. John's N.S.
Batty, E.	Bradford, St. James's N.S.
Cattrall, E. S.	Stepney, St. Thomas's N.S.
Farrar, M. A.	Halifax Parochial Ch. S.
Ham, J.	Beaminster N.S.
Hudson, C.	Liverpool, St. Luke's N.S.
Lawton, M.	Salford, St. George's St. N.S.
Raymond, M. A.	Grasford N.S.
Read, R.	Liverpool Ch. Ch. S.
Searle, A.	Stoke Cluneland N.S.
Windley, E.	Loughboro' Lancastrian S.
Ball, A. W.	
Boyes, M. M. T.	Bradford, St. James's N.S.
Belsley, E.	Peterborough N.S.
Burke, C.	Depton, St. John's N.S.
Buttrel, V.	Jersey, St. Helier's N.S.
Gillie, E.	
Haigh, E. E.	King's Cross, St. Paul's N.S.
Moses, M. J.	Chirk N.S.
Pett, A. H.	
Pickering, S. A.	Cirencester Endowed N.S.
Roberts, E.	Bromsgrove N.S.
Stammers, P.	Fulloxhill N.S.
Slowe, C.	Brampton N.S.
Smethurst, E.	Manchester, Bradford Road, St. Philip's N.S.
Talbot, E.	Weymouth, Holy Trinity S.
Baker, M.	East Malling N.S.

NAME.	SCHOOL.	NAME.	SCHOOL.
Brook, J.	Huddersfield, Seed Hill, St. Peter's N.S.	Mudge, E.	Liverpool, St. John's
Downton, S.	Church Oakley, N.S.	Price, M.	Brecon, St. Mary's N.S.
Duck, E.	Bloomsbury N.S.	Randall, P.	Madeley (Salop) N.S.
Hiscox, M. J.	Trowbridge (Wilts) N.S.	Stawman, S.	Leeds, St. James' N.S.
Helman, M. A.	Rochester, St. Nicholas' N.S.	Chadwick, S.	Kingston-on-Thames N.S.
Holmes, M. A. E.	Malden, Trinity N.S.	Gibson, S.	Windsor (New) N.S.
Hurdles, A. L.	Warren Ch. Offg.	Harrison, E. A. S.	Sheffield, Carver Street N.S.
Lewis, M. A.	Chirk N.S.	Holmes, M.	Liverpool Ch. Ch. S.
Lucas, H. L.	Hulme, St. Mark's N.S.	<i>Hyberd, S.</i>	
Palmer, E. M. A.		Palmer, E.	M. Hborough, St. Mary's N.S.
Tinkler, M. J.	Preston, St. Paul's N.S.	Pitman, E. M.	Stockwell, St. Michael's N.S.
Williams, S.	Bradford, St. Hill N.S.	Roberts, M. A.	Conway N.S.
Willcock, S. A.	Bradford, St. James' N.S.	Rowbottom, S.	Charlesworth N.S.
Willadon, E.	Godalming N.S.	<i>White, S. E.</i>	
Wright, F.	Reading, St. Mary's N.S.	Crane, S.	Preston, Central S.
Baldon, C.	Halifax Par. Ch. S.	<i>Grimson, M.</i>	
Blackmore, M. E.	Poplar, Regent Street, B.S.	Hill, E. A.	Southwark, St. Mary's N.S.
<i>Davies, G.</i>		Horne, H.	Gosport, St. Matthew's N.S.
Davies, J.	Crowan N.S.	Keating, C. L.	Piccadilly, St. James' N.S.
Eggleton, S. H.	Great Ryburg N.S.	<i>Knocles, K.</i>	
Gyles, L. A.	Toxteth, St. Thomas N.S.	Readwin, L.	Fakenham, Girls' and Infants S.
Hambleton, S.	St. Martin-in-the-Fields Northern D.S.	Thistlethwaite, A.	York, Walmgate N.S.
How, E. A.	Bromley (Middlesex) St. Leonard's N.S.	Ward, M. H.	Sheffield, St. George's N.S.
Jones, E. J.	Wilton N.S.	<i>Bellamy, M.</i>	
Lever, I.	Pershore N.S.	Firth, R.	Bierley N.S.
Lilley, R.	Manchester, St. Ann's N.S.	Hinchcliff, M.	Leeds, St. James' N.S.
Mason, F.	Melton Mowbray Free N.S.	<i>Hodge, M. E.</i>	
Morris, E.	West Bromwich, St. James' N.S.	<i>Matthison, A.</i>	
<i>O'ell, E.</i>		Starr, M. M. M.	Gloucester, St. James' N.S.
Price, R.	Staverton N.S.	Tovey, E.	Bristol, St. Paul's Paroch. S.
Sparrow, J.	Walkern N.S.	Woodhouse, M. A.	Miltham Mills N.S.
Vaughan, E.	Brighton St. Nicholas' N.S.	Burbage, M.	South Newton N.S.
White, E.	Hendon, St. Paul's N.S.	Cole, E.	Tewkesbury, Trinity N.S.
Willock, M.	Lancaster N.S.	Goacher, M. J.	Oakham N.S.
<i>Barker, M. A.</i>		Harris, M. F.	Stepney, St. Thomas N.S.
Davies, E.	Windsor N.S.	Mannock, E.	Halstead, Trinity N.S.
Downton, E.	Poplar, Regent Street B.S.	Pullinger, E. A.	Kentish Town N.S.
Fulbrook, E.	Godstone N.S.	Sykes, S.	Bradford, Manchester Road Factory S.
		<i>Taylor, M.</i>	
		Walling, A. H.	St. Martin-in-the-Fields N.S.

THE VIA APPIA.—The Via Appia, or Street of Tombs, is one of the grandest sights of Rome—an appropriate and affecting approach to the gates of the fallen mistress of the world; like her, in absolute ruin, but majestic in its fallen state. Much as I have read and seen of this approach, the solemn reality far exceeded my expectations. Extending in a straight line from the tomb of Cecilia Metella, the long vista of ruins open, outstretching for miles over the desolate Campagna; stones, towers, monuments, shapeless masses lie on every side, piled upon each other, forming an avenue of ruin impossible to conceive. Beneath is the original Roman pavement, and very bad and rough it is. Then there is such an enchanting view of Rome and its ancient walls, the aqueducts stretching across the plain for miles and miles beyond the Apennines, ending in Mount Soracte, shaded in every colour from purple to pale-yellowish-pink. In front lies Frascati, nestled in the folds of the mountains, dotted with forests and villages; above is Albano; while around extends the long level line of the Campagna, that earthen Dead Sea—calm, immovable, interminable, and looking equally accursed.—*New Monthly.*

CONCESSION.—A little explained, a little endured, a little tolerated as a *foible*; and lo! the jagged atoms fit like smooth mosaic.—*Bacon.*

Notes to Correspondents.

All Communications for the Editor should be addressed "The Editor of the Pupil-Teacher, 54, Paternoster Row, London, E.C."

METHOD OF ASKING OR ANSWERING QUESTIONS.—Our numerous correspondents would save us an immense amount of labour, and be less liable to disappointment from their communications not being promptly attended to, by attention to the following points:—

1. Write *only* on *one side* of the paper.
2. Keep each subject distinct from others.
3. *Head* each subject thus:—"Editor's Council," "Notes and Queries," "Editor's Questions," &c. &c.
4. Leave a space at the top and at the bottom of the paper.
5. Write your (real or assumed) name on each separate paper.
6. Always let your communications be accompanied by your name and address. For *publication* you may adopt any signature you please.

Thanks (for Contributions, Answers, kind Letters, &c.)—Rosa Villa; Alphonso; G. V.; C. F.; Redman; W. W.; T. C.; J. W. M.; W. Matthews; H. M. S.; J. D.; Anglus; W. Hillidge; C. H. Northam; R. W. L.; Robin Hood; W. P.; John Sinclair; Ehrenbreitstein; George More; M. A. H.; Wm. Rowe; Quentin; R. McWilliam; Susannah; Wm. Shaw; A. S.; Gabriel; James Fenton; John H. Smart; Suum Cuique; R. J.; Emma Mates; Ichabod; A. F. Gillespie; Thomas L. Simpson; Timid One; S. M. R.; W. B.; Unknown; G. Metcalf Sharp; Trainer; William Davy; W. L. Wild; S. Edwards; R. Waite; B. F.; Essayze; Pen; M. M. Edwin; Cornwellonian; G. P. Ward; F. P.; and many others.

Received.—John Copland; W. R. Q.; Rusticus; William Vickers; Mars; W. H. J. Deer; W. R.; J. D.; R. H. P. Hunter; Est; Mrs. C—e; Thomas Gray; S. S.; J. B.; W. H.

Recreative Exercises (*Lisa, Excelsior and Ich Dien*).—In our last number p. 28, for names read answers. (H. M. S.) Send the answers.

Publisher or Editor (*several Correspondents*).—Mr. G. J. Stevenson is the *Publisher*, not the *Editor*, of our periodical. We beg our correspondents to bear this in mind, and to keep the *business* part of their letters—such as relates to Subscriptions, &c.,—distinct from communications intended for the Editor. They should be written on a separate paper; this would prevent much unnecessary trouble, and, perhaps disappointment.

Mathematics.—Many pages of solutions, &c., are in type.

Battles.—We should feel obliged to our correspondents if they would write their lists of battles in the same form as our printed arrangement. We wish them to bear in mind that we do not always regard those as *best* which have the greatest number of items. One correspondent in particular has been most indefatigable in sending, for months past, long lists which must have cost him great trouble. Either his obstinacy or his thoughtlessness was on a par with his industry, for in spite of our repeated requests, and simple directions, he continues to write on *both* sides of his paper, and in such a manner that we cannot separate his "battles" from other subjects; consequently, we give preference to the paper of some more courteous and methodical (though perhaps less able or laborious) correspondent.

Another point.—Lists sent *after* the latest date named are useless for the *following* month. On the day after the one appointed, our publisher forwards all communications to us, and it *may* happen that we do not receive another "batch" for a week. The February list was arranged by us on the 18th; on the evening of that day we received a second parcel of letters &c. amongst which were many good lists, the three best, being β , γ , and δ . As our list was ready for the press, we have quoted from the three as much as possible. The *longest* list is that of β 's, 276, the *shortest* that of γ 's, 42.

Sign each Paper.—Correspondents who neglect this very simple plan cannot reasonably blame us if we overlook their papers.

Notes and Queries, Editor's Exercises, Notes of Lessons, Essays, &c.—Many pages are in type, or ready for the printer.

Criticism.—In our next.

Assumed Names.—Want of space compels us to keep these back till March.

NOTICE TO SUBSCRIBERS.

Our terms of Subscription, payable in advance, to Mr. George J. Stevenson, 54, Paternoster Row, are as follow; (stamps may be sent for small sums):—

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All orders must be prepaid. All amounts, exceeding 3s. 6d., when sent from the provinces, should be by Post-office Order.

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Vol. II. PUPIL-TEACHER now ready, price 3s. post free.

ANSWERS TO CORRESPONDENTS.

Catechism (Ekrenbreitstein).—In what respect do you mean? For what purpose do you require the work.

Borough Road (A. D.).—Write to the Secretary.

Erratum (p. 20.).—For John Sinclair read John "Sinclair."

Class Report and School Abstract (J. D.).—Cannot your master enlighten you on the subject?

Wesleyan Training Institution (1763).—We advise you to write to the Principal.

School Report (A. F. G.).—It depends mainly on the character and organisation of the School.

Writing (W. R.).—Poor for a 5th year P. T. (A. F. G.).—Large-hands not well proportioned. (R. W. Q.).—Stiff, but very promising; practice. (H. M. S.).—Continue to try, and we doubt not that you will succeed; as it is, your writing is superior to that of many who have obtained first class Queen's Scholarships. (T. G.).—We quite agree with you, and we sympathize with your anxiety; but yours is a very hopeful case, it is a free hand. (Timid One).—Very neat; keep your lines at more equal distances; correspond with us every month, you will benefit by it.

Arithmetic. (W. H. J. D.).—We know Colenso's to be good.

Binding Pupil-Teacher. (ib.).—Cloth, 1s. 9d.; Half-calf, 2s. 9d.

Boy's Own Magazine. (ib.).—Yes.

Certificate of Merit (Rusticus).—Yes.

Suggestions. (J. C.).—We should be glad to receive from you such "models" as you suggest. We have never rejected a contribution from you; query, have we ever received one?

Music. (C. F. R.).—Declined with thanks.

Pardoe's Manual (Mars).—8d., post-free, Mr. G. J. Stevenson, 54, Paternoster-row.

(H. R. P. H.).—It would not help you more than the questions in the *Pupil-Teacher*.

PLAGIARISM.

To the Editor of the PUPIL-TEACHER.

SIR,—I beg leave to state that the account of "The Rise and Progress of the Woollen Manufacture in England," inserted in the January number of the *Pupil-Teacher*, and purporting to be the production of "A. Ford (fourth year)," was originally written by Mr. Lake, and may be found in his "Book of Object Lessons." As the article appears in print, without the slightest acknowledgment to Mr. Lake, I feel urged to add, as one detesting plagiarism, that the transcriber is guilty of a glaring literary theft.

I am, Sir, respectfully yours,

JOHN SINCLAIR.

South Metropolitan Schools, Sutton, Surrey,
January 6th.

THE PUPIL-TEACHER.

EXCUSES.

WE once heard the Principal of a Training-School remark, that "those who are good at excuses are seldom good at anything else." Whether the axiom were his own or not is immaterial. Like many other "sayings," "adages," "wise saws, and modern instances," it is of a somewhat paradoxical character, and we hesitate not to submit that common experience will warrant us to predicate that "those who are *good* at excuses are *generally* good at everything else;" (of course we employ the term "everything" in a restricted sense).

An *able* general not only uses his best endeavours to secure a brilliant, decisive, and speedy victory, but he also regards retreats, repulses, and even defeats, as possible contingencies, and he makes his arrangements accordingly. If his engagement with the enemy prove unsuccessful, he knows "the reason why;" he *has* an excuse. On the other hand, a *brave* general who lacks other qualifications inseparable from *able* generalship, trusts to valour alone, and should that prove unavailing, he *makes* an excuse.

Similarly, an *efficient* teacher uses his utmost endeavours to ensure success. The details, as well as the outlines of his operations, are carefully considered. He has prevision of the various obstacles and difficulties with which he may meet, and he makes provision for them. Should his efforts prove ineffectual to the extent he expected or desired, he knows "the reason why," and his excuses are very different from those of the teacher who possesses some one—or at the most a few—of the qualifications of an efficient teacher. He may have zeal without ability, or *vice versa*. To plead that he has worked hard—if he has worked badly is not a *good* excuse—to plead that he has ability, if he has not zealously exercised it, is not a *good* excuse. He may have both ability and zeal, and he may misapply both; in such a case his excuses may be plausible, but they cannot be *good*.

Apt illustrations of the truth of these observations are afforded by the newspaper reports of the Bankruptcy and Insolvency Courts. One bankrupt or insolvent, whose liabilities amount to many thousands of pounds,

passes his examination creditably—his assiduity, integrity, and honour are unimpeached—he is *good* at excuses; even those who suffer most by his failure commiserate rather than blame him. Another, whose liabilities are comparatively insignificant, is proved, at each step of his examination, to be an unprincipled man—his excuses are numerous and crafty; he is ready with, but not *good* at, excuses; even those who are benefited (if it be possible) rather than injured by *his* failure reprobate his conduct.

The term “good,” like most other terms, is often misapplied; so is the term “excuses.” Hence those may be said to be “good at excuses,” who are ever ready with subterfuges, “too clever by half” at shuffling and evasion. Of the general who tries how he may avoid operations, either defensive or offensive, and then how he may justify his conduct; of the teacher who shirks his duty, and then sets his wits to work to show that he is not culpable; of the man of business who gets into debt by fraudulent representations, and then tasks his ingenuity for his defence, it would scarcely be fair to say “he is *good* at excuses.”

Again, not unfrequently we hear of *awkward* excuses, *idle* excuses, and *ridiculous* excuses. Take the following as a specimen of what is termed an awkward excuse: “George, will you please to show me your parsing?”—“Oh, please, sir, I thought I was to do arithmetic last night.” “How could you think that? you had your programme?”—“Oh, yes, sir, but I made a mistake.” “How careless you are! Well, what have you done in arithmetic?”—“Nothing, sir; I left my books in the class-room yesterday afternoon.” “Then you did nothing last night?”—“Yes, sir, I did some paraphrasing.” “Well, let me see it.”—“Please, sir, I didn’t bring it; I didn’t know you would want to see it this morning.” Now, this excuse, or rather string of excuses, is positively no excuse at all. And yet, how many such are offered! And, worse still, how many such are accepted as *awkward excuses* instead of being condemned as miserable evasions!

Idle excuses (so called) are mostly the subterfuges, quibblings, and evasions used by the idle and the dilatory. Here is a specimen: “James, did you call about those absentees on Saturday?”—“No, sir, I thought that they would be sure to come this morning.” “Did you call to see how Robinson is, as I asked you?”—“Yes, sir,—no, sir; I was going and I met Brown, who lives near to him, and he told me that he thought he was no better.”

Ridiculous excuses are perhaps the least censurable of all unreal excuses, simply because they are the result of ignorance. “*Plese excuse bad speling ass my pen spluters,*” is a ridiculous excuse of the first class.

What are called *witty* excuses are, in fact, not excuses at all, although perhaps harmless substitutes for them. A footman heard a little boy say something wrong; his papa reproved him, and the youngster—a tyro—declared that his offence was a *lapsus lingue* (a slip of the tongue), an “excuse” which highly amused the indulgent parent. A few days afterwards, at a dinner-party, the footman was bringing an ox-tongue to table and he let the dish fall—he begged his master to excuse him as his offence

was a *lapsus linguæ*. Of course, his wit was applauded, and his accident or carelessness, forgiven.

But attempts at witty excuses are often impudent aggravations of an offence. For instance, the fellow-servant of the footman we have just mentioned was bringing a leg of mutton to table: either accidentally, or intentionally, to display his wit, he let it fall on the carpet: with an air of injured innocence he declared that the fall was a "*lapsus linguæ*." The "excuse," of course, exasperated his master.

"Now, Green," said a schoolmaster to an inactive boy, "don't loiter about the playground, join in some of the games—" All work and no play makes Jack a dull boy." Shortly afterwards, when school-duties have re-commenced, the master reprimands a Pupil-teacher for playing instead of teaching. "Sir," replies the would-be wit, "'All work and no play makes Jack a dull boy.'" The answer would rightly be deemed impertinent.

But there is a kind of "excuse" much resorted to, and generally with success, but which is most reprehensible. It is a sort of mixture of the kinds of excuses which we have already mentioned. It may be better illustrated than defined. A boy comes late to school. "How is it you are so late?"—"Please, I had to take father's dinner;" or, "Please, I had to nurse the baby;" or, "Please, I was sent on an errand." Now the boy may speak the truth in one sense; but, strictly speaking, he may be, and probably is, guilty of falsehood—he may have taken his father's dinner, or nursed the baby, or have gone on an errand, and yet not been hindered from being at school in good time. We knew a "sharp" boy who was so good at "excuses" that his schoolfellows called him the school-barrister; if a boy were in a "scrape" the school-barrister or no one else could help him out of it, and yet the school-barrister prided himself on his truthfulness, and for his truthfulness he was noted by all who knew him. On one occasion some repairs were going on in his father's house, he was more interested in the operations of the workmen than in school and school subjects. To the surprise of his parents he was at home at ten o'clock, when, of course, he should have been at school. His father was very angry, and insisted upon his going to school, late as it was. To school he went. The master was a stern disciplinarian, a fact well known by parents as well as pupils. At a few minutes past twelve, the boy returned home joyous as ever. "Well," said his father, "I hope you have been punished, as you deserved, for being so late; I thought your master would have kept you without your dinner." "No, Papa, I have not been punished at all." "How was that?"—"Why, Papa, I know how inquisitive Mr. — is, so when I went to school, I went up to his desk and said, 'Please, Sir, our hall floor is being taken up;' he said, 'Indeed, what's the matter?' I told him, and he asked me a lot more questions about it, and then said, 'Go to your class.' He did not ask me how it was I was so late." Such "excuses," though not exactly *equivocations*, are so much like them, that much logical refinement is necessary to show the line of demarcation.

To sum up. Most "excuses" are untruths disguised, open to suspicion in the mind of man, but positively sinful in the sight of a holy God. No casuistry can justify them if they are judged by the highest and only

unerring standard of right and wrong. The practice of *making "excuses"* involves more mischief than is generally supposed.

I. It encourages an habitual neglect of duty. Those "*good at excuses*" are ever more adroit at finding an excuse than earnest in finding an expedient for rendering an excuse unnecessary.

II. It is a temptation to falsehood which is too often palliated by a mis-applied adage, "*A poor excuse is better than no excuse at all.*"

III. It subjects one to suspicion—not necessarily to the suspicion of being untruthful, but of being inactive, or unmethodical, or indifferent to the importance of performing appointed duties or required services.

IV. It engenders suspicion of others. "The old woman has been in the oven herself, or she would not look there for her daughter." Liars are the most incredulous of listeners, and those who are adepts at *making* excuses for themselves, commonly take the most uncharitable views of the shortcomings or misdoings of those who *have* excuses.

V. *It sets a bad example to others.* If you make a successful "excuse" without swerving from the truth, others may imitate your ingenuity without the slightest regard to truth. We remember an old school-anecdote which may be *new* to some of our readers. Two boys went to school one morning very late. "How is it," said the master to the elder one, "that you are so late?"—"Please, Sir, I dreamt that I was going by the steam-boat, and I thought that the school-bell was the signal-bell for starting." The boy was a "favourite," and the master, glad of an "excuse" to "let him off," told him to go to his place; then turning sharply to the other, who was *no* favourite of his, he said, "And what made *you* late?"—"Oh, please Sir, I was—I was—I—I—I was waiting to see Tom off by the steam-boat."

We specially warn Pupil-teachers against "*making excuses,*" because Pupil-teachers are peculiarly open to the temptation of making excuses. It is no hazardous assertion that Pupil-teachers are more frequently blamed for making "*excuses*" than for doing wrong, or for omitting to do what they are directed to do. It were much better to ask pardon—to apologize. "Oh, I cannot bear to ask pardon," says one. "I hate apologizing" says another. Well, then, we reply, for those very reasons ask pardon—apologize—when you have done wrong; and if your objections be sincere, your endeavours to do right will be more strenuous. "*Excuses*" are like drugs—the more you use them, the more you will need them, and the less good you will derive from them. As temperance and exercise will obviate the necessity of nauseous doses, so diligence and effort will obviate the necessity for excuses.

In conclusion, we are tempted to say a word for ourselves. Every month we are obliged to omit many pages of matter, simply from want of space. In the present number, we publish contributions which have been in type for more than six months. It would occupy no inconsiderable portion of our limited space if we were merely to mention what we have ready for publication. We trust, however, that the great demand on our space made by those interesting columns—the Queen's Scholarships' Lists—will be deemed sufficient apology for omissions, which we sincerely regret, *but which, under the circumstances, we cannot avoid.*

Our friends will be glad to hear that for the last five or six weeks our contributions have not only been more numerous, but also more interesting, than they ever were before. We hope that the result will ere long be manifest. We hope in our next number to "clear off" all, or nearly all standing matter. We wish to avoid urging excuses.

USE OF NOTES OF LESSONS.

In the books which are published to supply the teacher with notes of lessons, very little is ever said about the manner in which the notes are to be used; perhaps this is left to the decision of the teacher, or perhaps it is considered that in the use of notes of lessons, it is best for each teacher to do what seemeth right in his own eyes.

I will mention a few of the many ways in which notes of a lesson may be used, and then it remains to decide which is the best.

One mode of using *notes*, and one which I have seen frequently practised is as follows:—The teacher comes before the class with a neat piece of paper in his hand, or may be, protruding from his waistcoat pocket, and about every five minutes a pause is made in the lesson while the teacher is perusing the contents of his precious document.

Another way of using notes of a lesson, and one which requires more time and trouble than the last method, is to commit to memory the principal part of the notes, and thus do away with the using of the paper during the lessons.

And a third way of using the notes is, to look well at the divisions of the lesson, and notice what information comes under each head, so that when the lesson is given it shall be a systematic one, so well planned out that the scholars may, without much difficulty, retain the greater part of what has been taught during the lesson.

These are three ways in which notes may be used to a lesson; there are others, but it is unnecessary to mention them. Now, in deciding upon the best of these three ways, or any other number of ways of using notes of lessons, I think the two following facts should be borne in mind:—(1.) That the main objects for which the notes are used is to assist the teacher in giving a systematic and well-divided lesson, and if this be not accomplished, either the notes*, or the teacher's *mode of using them* is faulty; (2.) That if the notes are used in such a manner, as to give the scholars the idea that their teacher is endeavouring to teach them that which he cannot remember himself, then *that* is not the right manner of using the notes.

I myself consider the best mode of using notes of a lesson to be the last of the three I mentioned; and I also consider that the best notes a teacher can use, are those he frames for himself, although everyone will admit that such notes as frequently appear in the *Pupil-Teacher* are of very great use, inasmuch as they aid the teacher in making notes on other subjects. Having stated what I suppose to be the best mode of using notes of lessons I should feel obliged to any of my fellow Pupil-teachers who would make an improvement on it.

W. R. HIGH.

* Are faulty—(Ed.)

NOTES OF A LESSON ON TEA.

I.—INTRODUCTION.

As an introduction, ask the children to give the names of things which we drink, as water, milk, tea, &c.

Then show them some green and some black tea leaves, and ask what they are.

II.—APPEARANCE, GROWTH, GATHERING.

As they are leaves, of course they must grow on a plant or tree; the tea plant grows in India and China; is in appearance like a gooseberry bush; is an evergreen plant (names of English evergreens, why so called). The leaves are picked off in spring, again in summer, and again in autumn. Spring leaves are the best. Dried with great care, 1st, by exposure to the sun and air; 2nd, by the heat from charcoal fires. Tea leaves look crisp and curled; rubbed by the hand to make them look so. If dried quickly, they remain green; if slowly, black. The ground that the tea plants grow on, if joined together, would make a farm as large as Wales.

III.—QUALITIES, USES.

As we drink tea, and it mingles with our flesh and blood, we ought to know what it does there. Is it good or bad for us? The tea leaves contain a white powder, which makes them very refreshing and invigorating. But if you take notice of a person who takes tea for every meal, and one who only takes it at the proper tea time, you will see that the former looks thinner and paler than the latter; so that though a *little* tea is good for us, *too much* will do us harm. There are people in China who are employed to taste the leaves of different trees, to try their goodness, and these people are generally weak and nervous.

IV.—PREPARATION.

Suppose your mother were not well, had a headache, &c., how kind she would think you were if you would make for her a nice, hot cup of tea. You would, of course, get water first: would you have it hot or cold? To make the water hot, you know, it must be boiled; what would you boil it in? Yes, and if you find that the kettle has already some water in it, pour it out, and get fresh. Then put the kettle on the fire to boil, and while the kettle is boiling you can get the tea-pot ready, and the cup, and saucer, and spoon. Put them ready on a little tray. Then when the kettle boils, rinse out the teapot with hot water; this will make it warm. Then put in two or three good spoonfuls of tea, and over it a little hot water. When it has stood on the hob for five or seven minutes, you may pour out more water from the kettle into the tea-pot. Then pour the tea gently into the cup, but don't quite fill the cup, or it will slop over. Then will be wanted cream and sugar; stir it nicely round, and carry it steadily to your mother.

TRY AND TRUST.

[See *Domestic Economy*, under ANSWERS TO CORRESPONDENTS. October No., Vol. II. This lesson has been in type since September, and, with others still in type, has been kept back, from want of space.—Ed.]

Correspondence.

RELIGIOUS INSTRUCTION.

To the Editor of the PUPIL-TEACHER.

SIR,—I am looking over very carefully the two letters inserted, one in the November number by Miss Lever, and the other in the December number by "W. W."

Now, I have no pretension of satisfying the wishes of either of your correspondents with regard to their desire respecting an able writer; indeed, I think what you say at the foot of Miss Lever's, is enough to give satisfaction upon the subject; but it appears "W. W." has not taken much notice of your remarks, or else has not made a proper use of them. I therefore propose, by your permission, to say a few words upon the subjects contained in these two letters, adhering more closely to those which concern more directly the offices of a teacher.

REMARKS UPON LETTERS.

The two letters referred to contain remarks upon the following subjects:

1. The *number* of subjects taught in our National Schools, and the *manner* of teaching them.

2. We do not keep in sight the meaning of the word Education.

3. The important position which schools occupy in producing the Reformation spoken of by Miss Lever.

4. The non, or little influence, which Pupil-teachers have in effecting the above-named Reformation.

1. The *number* of subjects taught in our National Schools, and the *manner* of teaching them.

I quite agree with the opinion of your correspondent "W. W.," respecting the *number* of subjects taught in our schools. We have, I think, gone to the opposite extreme of our predecessors. We have too much *telling* and *cramming*, and too little educating. We do too much for the children, and let them do too little for themselves. We *tell* rather than *train*, and when the child leaves the school, and cannot find anyone to whom he may refer in a case of difficulty, he is at a loss.

I may venture here to say, that we neglect too much the most important subjects of Elementary education, and run to those subjects in which the teacher can *show-off* either his superior knowledge, or his (supposed) good teaching qualities.

The subjects to which I allude are reading, writing, and arithmetic, or, as they are commonly termed, the three Rs.

These require much more patience and skill in teaching than either geography or history, or any of the other *show-off* subjects. But as I am not going to complain of this system, or that system—for I believe whatever system we have, or may have, much will depend upon individual effort—I will say no more upon these matters now.

2. We do not keep in sight the meaning of the word Education.

"We lose sight of the true meaning of the word Education." This I believe to be the case; yet I am not aware that this is any fault in the *system* of education, but it rests with those who are entrusted with the education of our youths.

Now, as "W. W." speaks about the true meaning of the word Educate, but has no given such meaning, I will, by permission, trespass upon your time and space by supplying this omission.

Educate is derived from the prefix *e* = out, and the root *duco* = I lead; so that to educate means to *lead out*, and not to *cram in*.

Education also differs from instruction. Instruction comes from *in* = in, and *struo* = I build.

This word is often confounded with the word education, but by carefully perusing the following extract, the true meaning of the two words, and the difference between each, will clearly appear:—

"Instruction and breeding are to education as parts to a whole; instruction respects the communication of knowledge, and breeding respects the *manner*."

Education comprehends not only both these, but the formation of the mind, the regulation of the heart, and the establishment of the principles."—*Black's Dictionary of Latin Derivations*.

So you see, my fellow-labourers, we are *framers, regulators, and builders-in*; and what of? Not of any mean and contemptible structure; but of the mind, heart, and soul of the highest and noblest of all created beings—man; he alone, who was made in the image of the great Creator.

What an honourable and responsible position is that of a teacher, who has committed to his care the greatest of the works of creation! May we all endeavour, to the best of our ability, to *train-up* the youths committed to our charge in such a manner as may reflect credit upon the trainer, and promote the glory of the Creator.

3. The important position which schools occupy in producing the Reformation spoken of by Miss Lever.

I fully concur with your correspondent, that schools have a great influence in this matter; but it seems to me, that when Miss L. is asking for public-houses being shut up, canal companies prevented from carrying on their traffic, and railways being closed, &c., she is going the wrong way to work. She thinks there would then be a Reformation for the better. Now, ere I say more, I must tell you that I should very much like such a day to come, for I have, I am sure, as much aversion to drinking, &c., and profanation of the Lord's day, as your worthy correspondent. But if we would only consider for a moment that there are many men, who do not attend such places on a Sunday, and men who are not occupied in such traffic or travelling, unless they have received that "training of the heart," spoken of by "W. W.," when the advent of our God appears I fear they will be as far from that kingdom of bliss as either drunkard or traveller.

I would, therefore, humbly ask Miss L., and others who may see these words, to consider well the following couplet:—

"Seek first of all the Christian graces,
And all other things will follow in their places."

Or, as our pattern Teacher says,

"Seek first the kingdom of God and His righteousness, and all these things shall be added unto you."

4. The non, or little influence, which Pupil-teachers have in effecting the above-mentioned Reformation.

I am very far from agreeing with your correspondent "W. W.," when he says:—"I know that Pupil-teachers, at present, have very little influence in the matter;" and again, when anticipating a reform as soon as the present generation of Pupil-teachers become masters.

I believe, if all teachers would endeavour to follow in the steps of our great pattern Teacher, "who spake as never man spake," and would conscientiously fulfil the requirements of their office, that there would be a strange reformation in the manners and characters of the youths we turn out of our Educational Institutions.

There would be no necessity for Acts of Parliament to enforce the closing of public-houses, or the prohibition of traffic by river or rail; such changes would soon take place without any compulsion.

I may be allowed here to allude to a fact which appeared in the "British Workman" for this month (December), and which may serve as an illustration of the above assertion.

The editor of the above valuable paper, speaking about the Revival in Wales and Ireland, says:—

"Not a few publicans, beer-house keepers, and whiskey dealers, have relinquished their trade. In one town in Wales, seven publicans have taken down their sign-boards."

Any teacher who is in the habit of making careful observations upon his scholars

will easily find out the vast amount of influence that one scholar possesses, especially a senior one. The junior scholars watch and imitate their seniors in almost everything they do, and to whom do the seniors look but to the teachers.

As is the teacher; so is the scholar.

If a scholar has such influence in the school, what must the teacher have!

The text at the head of your leading article for this month (December) prevents me from saying anything upon "W. W.'s" remark about what Pupil-teachers will do when they become masters.

"Boast not thyself of to-morrow, for thou knowest not what a day may bring forth," but let each endeavour to do his own part now, remembering that "A little leaven leaveneth the whole lump," and that silent effort will produce much more good than a great fuss about reform.

In conclusion, allow me to add, if "W. W." (whom I suppose to be a Pupil-teacher), and if all Pupil-teachers, would spend about half an hour or so every Friday night, in reviewing the work of the past week, and ask themselves a few questions, something like the following, I am sure they would derive much good from it:—

1. What religious, moral, and intellectual instruction have I given to my class this week?
2. How was it received?
3. Was it dry and uninteresting to the children? or
4. Did they receive it with eagerness, and at the close of the lesson seem as if they did not want me to give over?
5. What effect had the lesson upon them?
6. If the lesson was dry and uninteresting, whose fault was it?
- In the majority of cases we shall find that the fault rests in the teacher, arising from many causes; e.g., Non-preparation of Lesson, Manner of delivery, &c.
7. Do my children come clean and tidy?
8. Do they improve in their manners and conduct?
9. Are they attentive to what I endeavour to teach them?
10. What progress have they made? and what are the subjects in which they are most deficient?

Other questions may be added, according to the circumstances of the party asking them, but I have given sufficient to show you what I mean.

I trust these few remarks will be received as from one who is interested in the welfare of Pupil-teachers.

I am, dear Sir, yours very respectfully,

THOMAS CLARK.

PLAGIARISM.

To the Editor of the PUPIL-TEACHER.

SIR,—Allow me to state that the answer to the question, "What right had Henry VII. to the Throne," inserted as the production of "R. W. Eden," was originally written, and may be found in Milner's History of England. As it appeared without stating from what source it was derived, I think the transcriber is guilty of a literary theft.

I am, Sir, yours respectfully,

R. J. VINCENT.

Educo.—A certificated Mistress, who has not served an apprenticeship as Pupil-teacher, or enjoyed the advantages of a Training School, would be obliged if any Mistress who has Pupil-teachers who have passed the third year's examination, would tell her to what extent the exercises in Analysis are given for that year. The pupil is studying from "Morell's Analysis." She would also be glad to know the kind of questions that are put on "The Liturgy." The "Broad Sheet" is so very indefinite, that she thinks if any Pupil-teacher could remember any questions put in her examination, and have them published in the *Pupil-Teacher*, it would be a great help to those studying for the same year.

Intelligence.

TESTIMONIALS.

To each of three male and two female Pupil-teachers of the Endowed Yellow Schools, Cirencester, on their gaining Queen's Scholarships and leaving for College, a beautifully bound "Mant's Prayer-Book," from the Trustees and Governors, as a token of satisfactorily completing their apprenticeship.

Presented to James Nancarrow, by the Master, Pupil-teachers, and Scholars of the Trevenson National School, a handsome writing-desk, which was thoroughly supplied with paper, &c., by the children of the Girls' School, as a small token of the affection which has ever existed between them.

Presented to William Warner Theophilus Mawer and John Berriman (on the completion of their apprenticeship) by the Master, Pupil-teachers, and Scholars of St. Thomas Charterhouse Schools, Goswell-street, a beautifully bound and illustrated copy of "Tasso's Jerusalem Delivered," as a slight token of their regard and esteem.

On the 27th ult., "Lardner's Philosophy" and "Cruden's Concordance," with the following inscription:—"These volumes are presented to Mr. Wm. Taylor, on his obtaining a high position in the first-class Queen's Scholarship list, as a memorial from his fellow Teachers, and the Master, and Children of St. Stephen's School, Birmingham, in testimony of their regard, and of his unwearied devotedness to his own studies, and of his diligence and skill in the performance of his school duties for the full term of his apprenticeship, during which time he never in any single instance incurred one word of blame or reproof, from any quarter whatever. At the same time was presented a strong, useful portfolio, from the senior Pupil-teacher, manufactured by himself.

On Friday, January 26th, Mr. W. C. Barber, who has recently completed his apprenticeship at the Gloucester British School, was presented by the Teachers and Boys with an elegantly-bound and illustrated Reference Bible, and two volumes of Chambers' "Encyclopedia of English Literature." At the same time the most sincere wishes were expressed for the future welfare of Mr. Barber.

Notices of Books.

MONTHLIES

[For Price and other particulars see *February* number (vol. iii.) pp. 44, 45.]

1. *Recreative Science*, No. 7. The Common House Spider (*Tegenaria domestica*), by JAMES SAMUELSON, is a valuable contribution to this very valuable serial. We recommend those who take notes of lessons from it to copy the engravings for illustration. The Hon. Mrs. WARD, the authoress of those charming books, "Telescope Teachings," and "A World of Wonders Revealed by the Microscope," contributes a paper on "The Conjunction of the Planets Jupiter and Venus on the morning of July 21, 1859." Mr. H. N. HUMPHREYS supplies "Notes on the Eland." Mr. SHIRLEY HIBBERD (the author of the *Town Garden*, which we so strongly recommend) shows the teaching of the Aquarium in "The Balance of Life and Death." Mr. C. M. ARCHER supplies his second paper on "The Anecdote History of Photography," a paper which gives much more information than its title would lead one to expect. "The Geology of the Fireside—Coal," by Mr. S. J. MACKIE, is a paper which cannot fail to please, and which Teachers will find very useful. Mr. GODFREY TURNER'S "Studies of Colour" is another attractive paper. Then we have "Rhaphides; or, Microscopic Plant Crystals," by Mr. TUFFIN WEST; "A Catalogue of all the Comets whose orbits have hitherto been computed," by Mr. GEORGE F. CHAMBERS; "Meteorology of February," by Mr. E. J. LOWE, who also gives "Astronomical

Observations for February, 1860." "Things for the Season," precedes the concluding portion. "Mr. NOTEWORTHY'S Corner," which contains Optical Phenomenon; Hunt's Cinophantic Colour-top; The New Intra-Mercurial Planet; Stereoscopic Phenomenon; A Cheap Telescope; and English Copper Coinage.

2. *The Family Treasury of Sunday Reading*. February. This paragon of cheap periodicals contains more articles, extracts, and so on, than we can, for want of space, mention. The number opens with the first of a new series, "Household Names." John Wycliffe is the subject chosen, and his biography by H. is well written. This is the only paper under the head of "Biography." The remainder of the contents of the number is arranged under eight sections, the titles of which we give, with figures to denote the number of distinct pieces pertaining to each. I. Practical and Devotional Papers (15); II. The Biblical Treasury (7); III. The Treasury Pulpit, (The Son Learning Obedience, by the Rev. CHARLES BRIDGES, M.A., Rector of Hinton Martel); IV. Treasury of Narratives, Incidents, &c. (12); V. Revival Papers (2); VI. Hours with Living Preachers (2); VII. Poetry (2); VIII. Home Lessons and Bible Readings (4); The Children's Treasury (14).

3. *The Penny Post*. No. 110. The first article is "The Month and its Teachings." This includes notes on the Red-letter days. The last section is headed "Minor Notes for the Month." In these Feb. 1 is called *Candlemas-Day*! This is downright heresy. *The Penny Post* did not reach us until the 2nd, the orthodox *Candlemas-day*; the holly, and the ivy, and the misletoe-bough, which for forty days had hung in our study, and which at the last looked more like farm-house dried herbs than festive emblems, were crackling on the fire when *The Penny Post* informed us that we were a day behind the rest of the world. After a consultation—of the almanac—our pulse once more beat freely. Now to return—these "Minor Notes" are very interesting; as is also the information given under the heading of "Our Post Bag." There are two pieces of Poetry both by the same contributor: the first is very indifferent, the second beautiful. "Clay-cum-Stickley" is concluded—it comes to a *melancholy* end. The first two chapters of a new tale, "Fanny Dale," do not raise our depressed spirits. We conclude the second with a sigh, and hope that the tale is *only* a tale. Then follows "An Allegory," good in its way, but the style too much "in keeping" with the tale. "Thanksgiving" is a companion piece to the Allegory. "Parish Incidents, No. I., 'Te Deum Laudamus,'" is precisely of the same character as the other papers which we have named. The "Church News" is, as it always is in *The Penny Post*, well "done." We confess we do not quite approve of the Lenten character of No. 110. We like variety of style, as well as of subject, in such periodicals as this.

4. *Old Jonathan*. No. 45. This "broad sheet" is graced by a splendid engraving, "An Amazon attacked by a Tiger," executed in zinc and bronze (Relics and Recollections of the Great Exhibition). The leader is very good—but the remarks relative to the Great Exhibition would apply to a patent lock or a cooking apparatus. We would respectfully remind *Old Jonathan*, that if his pictures are unfit to be written about, they are unfit to be published. We are glad to see a notice of "The Village of Astley, near Manchester," and of the Incumbent, the Rev. ALFRED HEWLETT, a very model of a *working* clergyman. *Old Jonathan* gives variety of style and variety of subjects. The extracts are generally judiciously chosen. "Pictures of Remarkable Places," is an attractive feature. "A Few Words about the Bible," by Mr. COWELL, of Bury St. Edmunds, would have been better for a little careful revision here and there.

5. *The English Journal of Education*. No. 158, N.S. The Education and Employment of Women—Lord Macaulay—Church Schoolmasters and Schoolmistresses, the dead, of 1859. The *First Year* Syllabus of the 1860 Government Examination for Certificates of Merit; Wellington College; Examination Papers (Training Schools) 1859, (males, 2nd year): Acts of the Apostles, Epistle to the Hebrews, History of the Church to the Council of Chalcedon, English Grammar and Composition, Geography, History, and School Management; Examination at the Collegiate Institution, Liverpool; Miscellaneous Intelligence, Reviews, Notices of Books, University Intelligence, Correspondence, &c.

6. *The School and the Teacher*. No. 26, N.S. Mr. M. C. COOKE'S "History of a Cotton Gown from the Seed-pod to the Rag-bag" (concluded); Exogens and Endogens; Government Examination Papers (Training Schools), 1859, (males). The Gospel according to St. Matthew; Catechism, Church History, and Liturgy. English

Grammar, English History, and British History; the second and third years' Syllabus (males and females) for Government Examination for Certificates of Merit, 1860. Intelligence, &c.

7. *The National Society's Paper*. No. 159. The Society's late Receiver, Half-yearly Abstract, the Society's Appeal, Queen's Scholarships, &c.; Night Schools, Book-buying, Parallel Desks, Hints on a Clergyman's Work in his School, Probation for Poor Schools; Notices of Books; Story for Sexagesima Sunday; Notes of Lessons for Sunday-School Teachers; Notes on Scriptural and Liturgical Words, &c.

The Leisure Hour, a Family Journal of Instruction and Recreation, Part 97, January, 1860. Price 5d. London: 56, Paternoster-row, and 164, Piccadilly.

This monthly is well known, but not so well known and so much read as it deserves to be. It is adapted to all classes of readers. The number before us contains the first eight chapters of "The Ferrol Family; or, Keeping up Appearances," Biographical Sketches of Sir J. Lawrence, Vancouver, C. J. Fox, and Prince Metternich, and many other interesting and instructive papers.

The Town Garden, a Manual for the Management of City and Suburban Gardens, by SHIRLEY HIBBERD. London: Groombridge and Sons. Second Edition. Cloth, fcap. 8vo, pp. 235. Price 3s. 6d.

Every Pupil-teacher should know something of the practice of gardening. According to the very interesting work before us, there is no reason why every pupil should not indulge in practical gardening; we say *indulge*, for by experience we know that in gardening, even in a small way, and under great disadvantages, *labor ipse voluptas*, in plain English, the labour is an indulgence—an enjoyment. Now, Mr. Shirley Hibberd's *Town Garden* is just the book for a Pupil-teacher who wants to do as much in the "gardening line" as he can under certain well-known and unavoidable difficulties. "The Gardener's year begins in autumn, say on Michaelmas-day," so says Mr. Hibberd, and no doubt he is correct; but he *must* mean country gardeners, for nearly all town gardeners *show* that they regard spring as the commencement of their year. But what says Mr. Hibberd about spring; "In central districts—say for London a circle of one mile radius from St. Paul's—spring is the best time for a general digging of the ground, as it is, also, the best time for planting trees and shrubs." Mr. Hibberd's book is written in a very pleasing style, and gives much useful information. It tells amateurs, or would-be amateurs, *what* to do, and *how* to do it.

A Geography of England, designed for Teachers and Schools; containing an Outline Geography of England and Wales, with an Historical, Physical, and Political account of each county. By H. HAWKINS, of St. John's School, Margate, and G. SROXBY, Holy Trinity School, Margate. London: Simpkin, Marshall, and Co., and the Authors. 1859: limp cloth fcap., 8vo, pp. 174. Price 2s.

A very useful book, evidently compiled with great care; it contains a vast amount of well-arranged information. We quote the Preface *in extenso* :—

"The object which the authors have in view in presenting this small Manual of Geography to their fellow-teachers, is to supply them with an Outline Geography of England, and a separate description of each county. We are frequently reminded "to begin Geography at home;" to make children well acquainted with their own county Pupil-teachers are often required, at the annual visit of Her Majesty's Inspector, either to give an oral lesson to their classes on the county in which their School is situated, or in their written examinations to give a description of it. To assist them this Manual has been compiled. Though great pains have been taken, and no effort spared to give correct information and dates, yet mistakes will occur, and we shall feel greatly indebted to any teacher or friend who will kindly point them out. The derivations of towns are given in large type to strike the eye more readily; and the heads under which the information is given is kept in the same natural order as that of our best approved School Geographies. Among the principal authorities consulted are :—M'Culloch's Commercial Dictionary, and Geography; Fullerton's Gazetteer; Dugdale's England; Bell's Geography; Griffin's British Empire; the National Cyclopædia; Hume and Smollett's History of England; Milner's History of England; and Gleig's History of England."

EXAMINATION OF CANDIDATES FOR QUEEN'S SCHOLARSHIPS.—
CHRISTMAS, 1869.

(Continued from page 47.)

GRAMMAR.

Three hours allowed for this Paper.

N.B. All the Candidates are expected to answer Questions 1 and 5.

1. Paraphrase the following passage :—

"Finally, as to this whole point, about not offending in our speech against piety, we should consider that—as we ourselves, with all our members and powers, were chiefly designed and framed to serve and glorify our Maker (it being withal the greatest perfection of our nature and the noblest privilege so to do)—especially our tongue and speaking faculty were given us to declare our admiration and reverence of Him, to express our love and gratitude toward Him, to celebrate His praises, to acknowledge His benefits, to promote His honour and service." (BARROW.)

2. Analyze this passage grammatically.

3. Break it up into three or four short complete sentences, retaining, as far as possible, the original words. What does it gain, and what does it lose, by this transformation ?

4. Point out the prepositions in the above passage, and show the peculiar force of each.

5. Parse the words "about," "offending," "that," "as (*twice*)," "it," "tongue," "speaking," "us," "reverence," as they occur above.

6. Define the term "parenthesis": parse fully, and explain the syntax of the words, "it being withal the greatest perfection of our nature, and the noblest privilege so to do."

7. Explain the terms "*subject*," "*object*," "*predicate*." Point out the subject and object of the verb "consider," as it occurs in the second line of the above passage.

8. How would you convey to children the first ideas of difference between the several parts of speech ?

9. Correct the following sentences ; and state the grammatical rules which they violate :—

- (a) You and me ought to have had some.
- (b) It was not fair towards you and I.
- (c) His father and mother sends him to school.
- (d) She teared her frock, and run home.
- (e) The slate was broke when you give it me.
- (f) There never was no pencil in it.
- (g) Neither of them were five year old.
- (h) These sort of things are too bad.
- (i) He was told to go to his place ; and which he said he would not do.
- (k) Manners makes the man.
- (m) He done it before ever I were aware.

N.B. The three following questions are for boys only. No Candidate should attempt them who has not had regular instruction in Latin :—

10. Decline the following Latin words :—"signum," a sign ;—"brovis," short,—"tu," thou.

11. Conjugate the verbs "rogare," to ask, and "tegere," to cover, in their perfect tenses, active and passive, in both indicative and subjunctive moods.

12. Can you give any general rules to determine whether a preposition is followed by the accusative or ablative case ? Give a list of prepositions which govern both cases ; and show how their meaning is modified according as they govern the one or the other.

(To be continued in our next.)

LIST (IN ORDER OF MERIT) OF QUEEN'S SCHOLARS.

CHRISTMAS, 1859.

SCHOOLS NOT CONNECTED WITH THE CHURCH OF ENGLAND.

I.—MALES.

First Class Scholarships of £23, with a Personal Allowance of £4.

Note.—The names printed in *italics* are those of candidates who, not having been Pupil-teachers, are admitted to compete for Scholarships, under the Minute of the 2nd of June, 1856.

NAME.	SCHOOL.	NAME.	SCHOOL.
Hayward, J.	Wotton-under-Edge B.S.	Stables, J. G.	Kendal B.S.
Barber, W. C.	Gloucester B.S.	Hindley, H.	Patricroft B.S.
Evans, W.	Holyhead B.S.	Jones, T.	Bialna B.S.
Killingbeck, J. H.	Selby Wes. S.	Ruddle, T.	Trowbridge B.S.
Meggs, W. T.	Cheltenham B.S.	Schofield, D.	Leeds, Darley St. Wes. S.
Farrow, W. H.	Ipswich B.S.	Hosking, R.	Penzance Wes. S.
Jones, H.	Bristol, Red Cross St. B.S.	Lee, G.	Kingswood Wes. S.
Phillips, H.	South Islington and Pentonville B.S.	Rees, J.	Aberdare B.S.
Blake, W. D.	Pembroke Dock B.S.	Radcliffe, W. H.	Sowerby Bridge Wes. S.
Hall, J. J.	Westminster Wes. Practising S.	Stillings, J.	Sowerby Bridge Wes. S.
Welch, G. W.	Beverley Wes. S.	Epsley, H. J.	Deal Wes. S.
Parker, J.	Rugby Wes. S.	Holmes, J.	Sowerby Bridge Wes. S.
Whitehead, T.		Hulbert, J.	Corsham B.S.
Greenhill, J.	Tenterden B.S.	Boulter, W.	Selby Wes. S.
Gardner, H. S.	Sleaford Wes. S.	Jones, M. H.	Southwark Wes. S.
Lee, W.	Sildaden Wes. S.	Weaver, G.	Bromyard B.S.
Mackrell, E.	Sowerby Bridge Wes. S.	Cavill, J.	Melton Mowbray B.S.
Stather, G. P.	Lincoln Wes. S.	Elgar, W. D.	Great Queen Street Wes. S.
Channon, J. P.	Tiverton B.S.	Norton, F.	West Ham and Stratford B.S.
Waldron, J. T.	Warrington B.S.	Wensley, G.	Manchester Ancoats Lyceum B.S.
England, T.	Leeds, Darley St. Wes. S.	Abbott, O.	Grimsby Wes. S.
Jenkinson, G. J.	Beverley Wes. S.	Allen, T.	Sheffield Park Wes. S.
Singleton, G. E.	Ipswich B.S.	Bennett, S.	Luton Wes. S.
Maudsley, S. G.	Exeter, Mint Lane Wes. S.	Holmes, W. T.	Brentford B.S.
Ratcliffe, J. R.	Hippings Wes. S.	Rivers, H. S.	Ipswich Wes. S.
Manton, G.	Melton Mowbray B.S.	Seanes, J.	Exeter, Mint Lane Wes. S.
Reakes, C. L.	Taunton B.S.	Wray, R.	Leeds, Darley St. Wes. S.
Sugden, J.	Greenland Wes. S.		

Second Class Scholarships of £23. No Personal Allowance.

Deacon, W.	Luton Wes. S.	Clark, E. J.	Gravesend B.S.
Greenland, A.	Folkestone B.S.	Gubb, B. M.	Abingdon B.S.
Horne, R.	Pocklington Wes. S.	Hargreaves, C.	Burnley N.S.
Tanner, F. A.	Kingswood Wes. S.	Hocking, S.	Camborne B.S.
Tranter, L.	Madeley Wood Wes. S.	Johnson, S.	Lynn B.S.
Jones, E. H.	Altrincham and Bowden Down B.S.	Lambert, D.	Coalbroke Dale Co.'s Pool Hill S.
Munns, W. H.	Rotherhithe, Midway Place B.S.	Oke, E.	Pembroke Dock B.S.
Martin, S. H.	New Wolverton B.S.	Turvey, J.	West Bromwich Wes. S.
Metcalfe, W. M.	York St. Geo. Wes. S.	Wilson, R.	Old Dalby B.S.
Watkins, E.	Maesteg B.S.	Boyd, H.	Hull, Holderness Ward B.S.
Bray, E.	Alresford B.S.	Smith, E.	Chipping Norton B.S.
Brazier, J.	Briery Hill Wes. S.	Spark, W.	Hadleigh B.S.
Danby, G.	Grimsby Wes. S.	Trim, W.	Holsworth Wes. S.
Edmond, A. W.	Newtown B.S.	Durley, H.	Whitchurch (Bucks) Wes. S.
Graham, J.	New Leake Wes. S.	Gamble, J. H.	Leicester, Hill Street B.S.
Harrison, R.		Martin, J. F.	Clapham B.S.
Rhys, J.	Penllwyn B.S.	Roberts, J.	Bangor B.S.
Richmond, J.	Manchester Ancoats Lyceum B.S.	Bishop, F.	Great Yarmouth B.S.
Smith, T.	Camberwell Crawford St. S.	Hadfield, G. H.	Salford, New Jerusalem S.
Sollett, G.	Holme Wes. S.	Jones, E.	Dolgelly B.S.
Cooper, D. J.	Lynn B.S.	Jones, W.	Mold B.S.
Davis, P. H.	Oldland Common B.S.	Turnbull, J.	Boro' Road Model S.
Hawkins, J. D.	Tipton Wes. S.	File, C. C.	Deal Wes. S.
Rowlands, R.	Bangor B.S.	Palmer, H.	Boro' Road Model S.
Woodruff, F.	Spittlegate Wes. S.	Webb, J.	Rotherham and Masbro' B.S.
Brown, A.	Nottingham, Derby St. B.S.	Gretton, F. W.	Ross and Archerfield B.S.
Beasley, D. S.	Batley Wes. S.	Greenwood, L.	Haworth Wes. S.
Holden, S.	Nottingham, Derby St. B.S.	Johnson, W. T.	Stockport B.S.
Hughes, D.	West Bromwich Wes. S.	Mellor, J.	Kyeerort, B.S.
Little, P.	Topsham Wes. S.	Moore, W. T.	Birmingham New Jerusalem S.
Tilley, E.	Toddington Wes. S.	Roberts, J.	Denbigh B.S.

NAME.	SCHOOL.
Smith, J.	Doncaster B.S.
Williams W.	
King, E. B.	Grantham B.S.
Lewis, A.	Boro' Road Model S.
Kirby, R.	Leicester Great Meeting S.
Kittredge, W.	Saffron Walden B.S.
Mayoh, M.	Hallwell Dean Mills B.S.
Wright, J.	Stillington Wes. S.
Calvert, P. P.	
Francis, G. H.	Penzance Wes. S.
Gunner, G.	Alrexford B.S.
Liddall, W.	Boston B.S.
Norris, S.	Pilkington, Park Lane B.S.
Bennett, J. J.	Falmouth B.S.
Compton, J. B.	Romsey B.S.
Daniel, J. B.	Oldham Wes. S.
Kershaw, J.	Droylesdon B.S.
Smith, F. G.	Wareham B.S.

NAME.	SCHOOL.
West, G.	Woolwich Presbyterian S.
Wilkinson, R.	Garford Wes. S.
Baker, J.	
Hobill, G. A. K.	Boro' Road Model S.
Sharples, J.	Farnworth Wes. S.
Trembath, T. H.	Bottoms Wes. S.
Bennett, W.	Sheffield Park Wes. S.
Jenkin, J.	Cowbridge and Llanblethian N.S.
Jennings, J.	Falmouth B.S.
Thomas, R. H.	Penzance Wes. S.
Bowser, W.	York, Hope Street B.S.
Rawkins, W. H.	Fordingbridge B.S.
Ray, W.	Boston B.S.
Haywood, J. B.	Sheffield, Red Hill Wes. S.
Smith, W. G.	Ampthill B.S.
Turner, W. A.	Brierley Hill Wes. S.

II.—FEMALES.

First-Class Scholarships of £17, with a Personal Allowance of £3.

Jarratt, F.	Leicester, Hill Street B.S.
Hill, S. J.	Leicester, Hill Street B.S.
Parker, H. M.	Boro' Road Model S.
Beech, M. A. P.	Westminster, Wes. Practising S.
Brindley, A.	Manchester, Lower Moseley Street B.S.
Sterne, S.	Vauxhall Walk Wes.
Aldham, A.	Nottingham, High Pavement B.S.
Burton, E.	Dunmow B.S.
Dodds, H.	Wainfleet Wes. S.
Mathews, M. A.	Cardiff Wes. S.
Roberts, E.	So. Islington and Pentonville B.S.
Brown, F.	Bethnal Green, Abbey Street B.S.
Hall, S.	West Bromwich Wes. S.
Jackson, A. E.	Bollington Wes. S.

Brocklehurst, S. A.	Bollington Wes. S.
Laverach, M.	Leeds, Basinghall St. B.S.
Moss, E.	Bristol, Meadow Street B.S.
Merritt, M. M.	Dartford Wes. S.
Kusol, C.	Spitalfields, Wood St. B.S.
Evans, M. J.	
Moss, M.	Manchester, Jerusalem Chapel S.
Hildreth, S. H.	Darlington, Bridge Street, B.S.
Brewer, R.	Blaith B.S.
Hurst, E. J.	Bristol, Lewins Mead B.S.
Tooke, A. E.	
Bessell, F. H.	Bristol, Lewins Mead B.S.
Cowtan, H.	Boro' Road Model S.
Paul, H.	
Payne, E.	Clapham B.S.
Smith, E.	Dartford Wes. S.

Second-Class Scholarships of £17. No Personal Allowance.

Carter, E.	Camborne B.S.
Goulding, C. E.	Padiham Wes. S.
Symons, A.	Croydon B.S.
Laverack, E. B.	Howden Wes. S.
Johnson, C.	Burslem Wes. S.
Robinson, J.	Toxteth B.S.
Chalk, E. J.	Sudbury B.S.
Herod, E.	Manchester, Rusholme Road Wes. S.
Masson, S.	Bethnal Green, Abbey St. B.S.
Stevens, S. P.	
Stoker, J.	Carlisle B.S.
Cox, M.	Westminster Wes. Practising S.
Mauldon, H. T.	Ipswich B.S.
Ofield, Mary A.	Hackney Road, Weymouth Terrace B.S.
Hillyer, M. J.	
Baker, M.	Sudbury B.S.
Gillingham, L.	Brentford B.S.
Hall, I.	Bridport, General Girls' and Infants'
Small, I.	Boro' Road Model S.
Ardley, M.	Apsley Guise B.S.
Wise, M.	Bethnal Green, Abbey St. B.S.
Capes, E.	Darlington, Bridge St. B.S.
Foster, M. A.	Woodbury, Broadmead End S.
Munkman, M. J.	Boston B.S.
Stevens, M.	St. Ives, Cornwall Wes. S.
Wood, E.	Taunton B.S.
Noble, C.	Liverpool, Hope Street B.S.
Porter, M. A.	Folkestone B.S.

Cragg, S.	Warrington B.S.
Fulk, J.	Guildford B.S.
Jones, E.	Bangor B.S.
Edwards, J.	Cambridge B.S.
Gunson, M.	
Kendall, S.	Toxteth B.S.
Buckley, R.	Bethnal Green, Abbey St. B.S.
Ward, J.	Bridport General Girls' and Infants' S.
Birch, S.	Birmingham, Dom. Miss. S.
Pascoe, F.	Falmouth B.S.
Case, I.	Pill Benevolent
Hearn, R.	Banbury B.S.
Kemp, E.	London, Chapel St. Dom Miss. S.
Moss, E.	Southwark Wes. S.
Taylor, E.	Liverpool, Hibernian S.
Unthank, M. E.	Darlington, Bridge St. B.S.
Aylward, E.	Chichester, Tower St. B.S.
Foreman, M. A.	West Ham and Stratford B.S.
Cox, C.	London, Chapel Street Dom. Miss. S.
Denning, E.	
Dunstan, E.	Constantine B.S.
Lloyd, L.	Radnor Street, City Road Wes. S.
Savery, H. S.	Liskeard B.S.
Barnshaw, E.	
Kemp, E.	
Binns, M.	
Coombe, E.	Falmouth B.S.
Harris, S. S.	Carlisle B.S.
Higson, E.	Bolton, Bridge St. Wes. S.
Morris, A.	Chipping Norton B.S.

CHURCH OF SCOTLAND.

I.—MALES.

First-Class Scholarships of £23, with a Personal Allowance of £4.

Note.—The names printed in *italics* are those of Candidates who, not having been Pupil-teachers, are admitted to compete for Scholarships under the Minute of 2nd June, 1856.

NAME.	SCHOOL.	NAME.	SCHOOL.
Brown, A.	Gala Subscription S.	Swanston J.	Edinburgh, Greenside, Dr Bell's S.
Phillip, T.	Dunfermline Free Abbey S.	<i>Fallance, D.</i>	Busby Par. S.
Pow, R.	Lauder Parochial S.	Dalrymple, D.	Fullarton Par. S.
Wood, J.	Whitedalehead, Wilson's Endowed S.	Thomson, A.	Galston Par. S.
Mackay, D.	Perth, East Parish Congregational S.	Cuthbertson, J.	Busby S.
Black, S. D.	Iverbrothlock F.C.S.	Thom, A.	Montrose, White's Free S.
Ferguson, W.	Edinburgh Normal S.	Jolly, A. R.	Busby Par. S.
Ferguson, D.	Perth, East Parish Congregational S.	Fulton, J.	Busby Par. S.
Livingstone, A.	Falkland Par. S.	Kerr, R.	Perth, East Parish Congregational S.
Doak, D. M.	Kilwinning Par. S.	Miller, J.	Ladybank, Ch. of Scotland S.
Campbell, G.	Kilwinning Par. S.	Murray, A. J.	Monzievaird and Strowan Par. S.
Collie, C.	Tornavoe Par. S.	Gray, J.	Bishopmill Gen. Assy. S.
Weir, T.	Leadhills Par. S.	Preston, J.	Glasgow College Par. S.

Second-Class Scholarships of £23. No Personal Allowance.

Brown, A. P.	Kilmarnock Academy	Fraser, J.	Nairn Gen. Assy. S.
<i>Forbes G.</i>	Montrose, White's Free S.	Sime, J.	Inchture Par. S.
Fyfe, A.	Troon Academy	<i>Tweedie, G.</i>	Erroll, F.C.S.
Kennedy, J.	Cathcart Par. S.	Anton, P.	Calderwood, D.
Christie, J. C.	Dundee, Gen. Sess. S.	Calderwood, D.	East Kilbride Par. S.
Dick, J.	Dundee, Gen. Sess. S.	Borland, J.	Stonehouse Par. S.
<i>Moodie, J.</i>	Glasford Par. S.	Dewar, J.	Edinburgh, St. Andrew's Seasl. S.
<i>Shed, J.</i>	Bridgeton Par. S.	<i>Dunn, D.</i>	Maxwellton Endowed S.
Wilson, R.	Kirkcudbright, Towend Sessional S.	Smith, J.	Creich Par. S.
Young, W.	Maxwellton Endowed S.	McLeod, J.	Dundee Gen. Sess. S.
Mantle, B. B.	Redding Muirhead, Gen. Assy. S.	Bertie, W.	Montrose, White's Free S.
Hamilton, J.	Dornoch Par. S.	Low, C.	McWhannell, J.
Neil, T.	Aberdeen, East Parish S.	Smith, G.	Monifieth Par. S.
Ross, D.	Grange Park Sub. S.	Beaton, A.	Glenargy Gen. Assy. S.
Bain, A.	Dalziel Par. S.	McDougall, W. L.	Lockerbie F.C.S.
Taylor, R.	Bentrow, Old Burgh S.	<i>Liddell, H.</i>	Inverkeilor Par. S.
Waddell, J.	Bridgeton Free Ch. S.	Smith, A.	Redding Muirhead Gen. Assy.
Wilson, W. ....	.....	Tait, J.	Turner, W.
Clark, W. ....	.....	Breakenridge, W.	Bothwell Par. S.
Gay, D. ....	.....	McConnachie, G.	Glenrinnies Gen. Assy. S.
Cameron, D. ....	.....	McMillan, J.	Campbeltown, Burgh S.
<i>Kelly, J.</i> .....	.....	Scott, J. ....	.....
<i>McMeiking, J. J.</i> .....	.....	

II.—FEMALES.

First-Class Scholarships of £17, with a Personal Allowance of £3.

Thomson, M. A.	Dunfermline Industrial S.	<i>McDonald, M.</i>	Munro, C.
Grant, E.	Edinburgh, St. George's Local Day S.	<i>Cryll, A.</i>	Grant, E.
<i>Edwards, H. J.</i>	Alexandria Fem. S.	Grant, E.	Glasgow, Young Street, St. John's S.
Forbes, C.	Glasgow, St. David's Par. S.	Laurie, M. J.	Barnston S.
Broadfoot, M.	Dunkeld, Duchess of Athol's S.	Keddie, J.	Edinburgh, St. George's Local Day S.
Young, E. ....	.....	Weir, M.	Dunfermline Industrial S.
<i>Ferguson, E. W.</i> .....	.....	Ewen, M.	Aberdeen, East Parish Sessional S.
<i>Burgess, A.</i> .....	.....	<i>Ferguson, S. B.</i> .....	.....
Duncan, A. M.	Glasgow, Bluevale S.	<i>McLean, M.</i> .....	.....
<i>Gow, I.</i> .....	.....	
<i>McPherson, C.</i> .....	.....	

Second-Class Scholarships of £17, with no Personal Allowance.

Kinloch, C.	Glasgow, St. Matthew's Sessional S.	Carbarns, A.	Anderston Burgh S.
<i>Lithgow, M.</i> .....	.....	McLeish, E.	Juniper Green S.
<i>Brown, M. F.</i> .....	.....	Pringle, L.	Edmundston S.
Hird, E.	Auchtermuchty, Madras S.	Scott, M.	Nollfield Infant S.
<i>Nairn, E. J.</i> .....	.....	Jarvis, E. K.	Aberdeen, East Parish S.
		Mantle, M.	Kirkcudbright, Old Church S.

NAME.	SCHOOL.
Andrew, I.	Edinburgh G. A. Normal S.
Beattie, F.	Anna Infant and Industrial S.
McCall, I.	Glasgow, Chalmers' St. John's Parl. S.
Bertram, W.	Johnshaven S.
Hosie, F.	Househill Endowed S.
Pearson, M. A.	St. Cyrus Porteous S.
Black, H.	
Doig, E.	
McKillop, A.	

NAME.	SCHOOL.
Millar, J.	Glasgow, Young Street St. John's S.
Pendrigh, M.	
Starke, C. H.	Kilbarahan S.
Miller, J.	Dunoon Parl. S.
Clark, A.	
Caloway, A.	
Simpson, J.	Lechwinnoch S.
Scott, M. C.	Edinburgh G. A. Normal S.
Ferrier, B.	Muskeburgh S.

SCOTLAND FREE CHURCH.

I.—MALES.

First-Class Scholarships of £23, with a Personal Allowance of £4.

Note.—The names printed in *italics* are those of Candidates who, not having been Pupil-teachers, are admitted to compete for Scholarships under the Minute of 2nd June, 1856.

NAME.	SCHOOL.
McKay, J.	Wick F.C.S.
Simpson, A.	Tranent F.C.S.
Bourhill, W.	Fisherrow F.C.S.
Suttie, D.	Dundee, St. Peter's F.C.S.
McKenzie, J. Jun.	Stornaway F.C.S.
Paterson, R.	Glasgow, St. John's F.C.S.
Whitehead, J. E.	Bury Wes. S.
McDonald, G.	Edinburgh, Tolbooth F.C.S.
McMaster, A.	
Law, W.	Montrose, St. John's F.C.S.
Ogilvie, A.	Forfar F.C.S.
Wilson, J.	Auchtermuchty F.C.S.
Gloag, D.	Edinburgh, Dr. Thompson's F.C.S.
Robertson, J.	Broughty Ferry F.C.S.
Sutherland, G.	Pulteney Town F.C.S.
Bland, J.	Oakworth Wes. Day S.
Bowers, J.	
Ferguson, W.	Cupar Angus F.C.S.
Fleck, W.	West Kilbride F.C.S.
Ross, G. G.	Thurso F.C.S.
Wright, D.	Paisley, Neilson Institution

NAME.	SCHOOL.
Coutts, W.	
Simpson, J.	Aberdeen, South, F.C.S.
Ayton, D.	Dundee, Wallace Town F.C.S.
Clunie, W.	Dundee, St. John's F.C.S.
Craig, J.	Large Brisbane Endowed S.
Rislop, J.	Castle Douglas F.C.S.
Robb, G.	Kinross F.C.S.
Anderson, G.	Scots F.C.S.
McIntosh, D.	Conon F.C.S.
Allan, R.	Doune F.C.S.
Clark, D.	Montrose, St. John's F.C.S.
Ramsay, A. Jun.	Ladyloan F.C.S.
Young, J.	Montrose, Dorward's Seminary, Upper S.
Gemmell, D.	
Jamie, W.	Frickheim F.C.S.
Phillips, James	Aberdeen, South, F.C.S.
Buchanan, D.	Falkirk, Parl. S.
Cumming, D.	
Hanson, G.	
Richardson, J.	Kinross F.C.S.

Second-Class Scholarships of £23. No Personal Allowance.

Leask, N.	Stirling, Allan's S.
Milne, A.	Inverbrothock F.C.S.
Bein, J.	
Grubb, G.	Montrose, Dorward's Seminary, Upper S.
McGregor, A.	Tullibody Sub. S.
Pennycook, W.	Bridge of Allan F.C.S.
Ramsay, A. Sen.	Edinburgh, Tolbooth F.C.S.
Gibson, A.	Fisherrow F.C.S.
Richmond, J.	Hamilton, St. John's F.C.S.
Taylor, D.	South Leith F.C.S.
McDonald, R. P.	Stonehaven F.C.S.
Yunnie, W.	Aberdeen, South, F.C.S.
Berrie, M. S.	Ferryport on-Craig F.C.S.
Gunn, J.	Thrumster G.A.S.
Dalsiel, J.	
Henderson, D.	Inverary F.C.S.
Kerr, F.	Earlstown F.C.S.
Kitchen, A.	Greeland Wes. S.
Beld, M.	Bridgeton F.C.S.
Rutherford, J.	Bridge of Earn F.C.S.
Caird, G.	Carnoustie F.C.S.
Hutton, W.	Montrose, Dorward's Seminary, Upper S.
Stewart, A.	Strathock G.A.S.
Kerr, T.	New Cumnock F.C.S.
Thornton, J.	Inverkillow Parish S.
Biggar, M.	Glasgow, St. Peter's F.C.S.
Edie, A. E.	Aberdeen, Bon Accord F.C.S.
Williamson, J.	Peterhead F.C.S.
McRae, D.	

Steele, J.	Montrose, Dorward's Seminary, Upper S.
Andrews, W.	Hamilton, St. John's F.C.S.
Fernie, W.	Cupar, Madras Academy
Keith, C.	Inverbrothock F.C.S.
Reid, J.	
Cuden, W.	Downies F.C.S.
McRae, F.	
Simpson, T.	Boston, Clifford, and Bramham Wes. S.
Martin, J.	Glasgow, Finnieston Mission S.
McKim, A.	Renton Public S.
Preston, W.	
Russell, G.	Slamannan F.C.S.
Skelly, R.	Perceaton F.C.S.
Aitken, T.	Edinburgh, Westport Territorial F.C.S.
Anderson, J.	Fisherrow F.C.S.
Barbour, J.	Dumblane F.C.S.
Skinner, H.	
Robson, J.	
Slater, W.	
McIntosh, J.	
Millar, D.	Ochiltree F.C.S.
Broadhurst, J.	Runcorn Wes. S.
Sutherland, D.	
Fleck, T.	West Kilbride F.C.S.
Kerr, A.	New Cumnock F.C.S.
Robb, A. C.	
McLeod, A.	

II.—FEMALES.

First-Class Scholarships of £17, with a Personal Allowance of £3.

NAME.	SCHOOL.	NAME.	SCHOOL.
Ord, J. A.	Edinburgh, Dr. Thompson's F.C.S.	Brown, J.	
McFarlane, J.	Glasgow, Old Wynd F.C.S.	McGregor, C.	
Kerr, J. A.	Glasgow F.C. Model S.	Brown, J.	Paisley, Stow's S.
Forbes, H.	Montrose, St. John's F.C.S.	Ogilvie, J.	
MacIsagan, A.	Dundee, St. Peter's F.C.S.	Paterson, M.	Largs F.C.S.
Paterson, A.		Broughall, R.	
McKellar, E.	Glasgow F.C. Model S.	Covans, E. H.	
Wallace, A.		Hill, H.	
Thompson, M.		Hercus, J.	
Baird, M.		Smith, M.	
Dawson, E.	Glasgow, East Gorbals' Territorial S.	Drummond, J.	Paisley, Neilson Inst. S.
Miller, A.	Perth Free West Ch. S.	Ferguson, F.	
		Trall, A.	Aberdeen, John Knox F.C.

Second-Class Scholarships of £17. No Personal Allowance.

Law, J.	Peterhead F.C.S.	McRobie, M.	Edinburgh, Dean Chalmers, F.C.S.
Muir, H.	Auchterderan Flockhouse F.C.S.	McGregor, M.	Airdrie F.C.S.
Gow, V.	Edinburgh, North, District F.C.S.	Shaw, M.	
Fenton, H.		Hamilton M. E.	
McIntosh, M.		Henderson, A.	Paisley, Neilson Inst. S.
Robertson, B.	Monikie Female School	White, A.	Glasgow, East Gorbals' Territorial S.
Hamilton, J.		Main A.	
Alexander, J. R.		Simpson, M.	
McOmish, A.		Wallace, M.	
Gordon, M. C.		Baird, I.	
Osborne, J.		Sutherland, M.	
Bae, J. C.	Leith, St. John's, F.C.S.	Taylor, J.	Montrose, St. John's F.C.S.
Murray, I.		Buchanan, J.	
Smith, M.		Gold, H.	
Connell, E.	Stanwix N.S.	George, H.	

EPISCOPAL CHURCH OF SCOTLAND.

I.—MALES.

First Class Scholarships of £23, with a Personal Allowance of £4.

Note.—The names printed in *italics* are those of Candidates who, not having been Pupil-teachers, are admitted to compete for Scholarships under the Minute of the 2nd of June, 1856.

NAME.	SCHOOL.	NAME.	SCHOOL.
Wiseman, J.		Creighton, A.	Dalmahoy, St. Mary's Episcopal S.
Anderson, A.	Leith, St. James's Episcopal S.		

Second Class Scholarships of £23. No Personal Allowance.

Roberts, Z.	Leith, St. James's Episcopal S.	Havelock, J.	
Kermick, W.	Kirriemuir Episcopal S.	McIntosh, A.	
		Morrow, R.	
		Higgins, J.	Ayr Episcopal S.

II.—FEMALES.

First Class Scholarships of £17, with a Personal Allowance of £3.

MacRannell, V.	Edinburgh, St. Andrew's Hall Episcopal S.	Byers, J.	
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Second Class Scholarships of £17. No Personal Allowance.

Cant, M. L.		Adams, M.	Dundee, St. Mary's Episcopal S.
Mitchell, R. M.	Edinburgh, St. Paul's Episcopal S.	MacLaren, M. A.	Stirling Episcopal S.
Sterling, E.	New Pittsigo, St. John's Episcopal S.	Smith, A.	Burntisland Episcopal S.
Curieno, E.		Saunderson, S.	

QUEEN'S SCHOLARSHIPS.

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ROMAN CATHOLIC.

I.—MALES.

First Class Scholarships of £23, with a Personal Allowance of £4.

Note.—The names printed in *italics* are those of Candidates who, not having been Pupil-teachers, are admitted to compete for Scholarships under the Minute of the 2nd of June, 1856.

Green, J.	Lancaster, St. Mary's R.C.S.	Hayes, P.	Wapping, Red Lion Street R.C.S.
Cullen, J.	Liverpool, St. Thomas and St. William's R.C.S.	Connellan, P.	Glasgow, St. John's R.C.S.

Second Class Scholarships of £23. No Personal Allowance.

<i>Everard, L.</i>		Bannen, H.	Coatbridge, St. Patrick's R.C.S.
Cunningham, P.	St. George-in-the-East, St. Mary and St. Michael's R.C.S.	Fitzpatrick, H.	Edinburgh, St. Andrew's R.C.S.
Green, D.	Commercial Road, St. Patrick and St. Augustine's R.C.S.	McHardy, A.	Aberdeen, St. Peter's R.C.S.
Allwell, J.	Poplar R.C.S.	Noblett, W.	Garstang R.C.S.
Culshawe, R.	Spinkill R.C.S.	<i>O'Neal, M.</i>	
McGovern, J.	Bristol, St. Nicholas' R.C.S.	Donovan, F.	Bristol, St. Mary's R.C.S.
Gallagher, J.	St. Helens, Lowe House R.C.S.	Ferguson W.	Preston, St. Wilfred's R.C.S.
McAleer, D.	Coatbridge, St. Patrick's R.C.S.	Callan, T.	Preston, Upper Walker St. R.C.S.
McGrorty, J.	Glasgow, St. John's R.C.S.	Gallagher, W.	Coatbridge, St. Patrick's R.C.S.
Mahoney, R.	Bristol, St. Nicholas' R.C.S.	Shea, W.	Poplar R.C.S.
Bagnall, J.	Cobridge, St. Peter's R.C.S.	Hill, J.	Edinburgh, St. Andrew's R.C.S.
Groves, A.	Brighton, St. Mary's R.C.S.	<i>Morrain, E.</i>	
		Pilce, R.	Fulham, St. Thomas's R.C.S.
		<i>Tracy, P.</i>	

II.—FEMALES.

First Class Scholarships of £17, with a Personal Allowance of £3.

<i>Drury, E.</i>		Horn, A.	Preston, The Talbot R.C.S.
Duffy, E.	Blandford Square R.C.S.	M'Nally, M.	Liverpool, St. Oswald's R.C.S.
Hall, A.	Brighton, St. Mary's R.C.S.	Shearman, M. J.	Nottingham, St. Mary's R.C.S.
<i>Drum, C.</i>		Roberts, A.	Ashton-in-Makerfield R.C.S.
O'Connor, H.	Liverpool, St. Anthony's R.C.S.	Barker, F.	Nottingham, St. Mary's R.C.S.
Doran, M.	Liverpool, St. Nicholas' R.C.S.	Chisnall, E.	Liverpool, St. Francis's R.C.S.
M'Carten, T.	Birmingham, St. Chad's R.C.S.	Byrne, E.	Soho, Greek Street R.C.S.
Crudis, E.	Newcastle, St. Andrew's R.C.S.	<i>Glynn, H.</i>	
Rooney, T.	Edinburgh, St. Mary's, Market Street R.C.S.		

Second Class Scholarships of £17. No Personal Allowance.

Kelly, B.	Liverpool, St. Mary's R.C.S.	Critchley, M. A.	Preston, St. Augustine's R.C.S.
Rickaby, E.	Liverpool, St. Nicholas' R.C.S.	Smith, J. A.	Dufour's Place R.C.S.
Smith, A. M.	Preston, St. Wilfred's R.C.S.	Curran, M.	Liverpool, St. Nicholas' R.C.S.
McArdle, M. A.	Liverpool, St. Peter's R.C.S.	Daly, E.	Liverpool, St. Mary's R.C.S.
McVicar, E.	St. Leonard's-on-Sea, St. Mary's R.C.S.	Green, B.	Commercial Rd. St. Patrick and St. Augustine's R.C.S.
Wood, F.	York, St. Mary's R.C.S.	Taafa, A.	St. Helen's, Lowe House R.C.S.
Loveridge, M. A.	Bristol, Pennywell Road, St. Nicholas' R.C.S.	Duffy, B.	Litherland R.C.S.
Gaunt, E.	Liverpool, St. Francis' R.C.S.	<i>Judge, M. A.</i>	
Fitton, H.	Commercial Rd. St. Patrick and St. Augustine's R.C.S.	Donnelly, A.	Liverpool, St. Nicholas's R.C.S.
<i>Coller, E.</i>		<i>McCurdy, C.</i>	
Wilson, I.	Newcastle-on-Tyne, St. Andrew's R.C.S.	Tierney, E.	Wigan, St. John's R.C.S.
Armstrong, J.	Hexham R.C.S.	<i>Harris, C.</i>	
Brown, M.	Coatbridge, St. Patrick's R.C.S.	Hoey, I.	Edinburgh, St. Mary's Market Street Infant R.C.S.
<i>Smyth, E.</i>		Landsdown, J.	Bath R.C.S.
Murphy, E.	Newcastle-on-Tyne, St. Andrew's R.C.S.	Whittle, E.	Preston, St. Augustine's R.C.S.
Cockshott, O.	Hurst Green R.C.S.	<i>Arthur, A.</i>	
		Bamford, S. A.	Townley I fa R.C.S.

Selections by the Editor.

GIBRALTAR.—Gibraltar, always an important place, is now especially so, from the threatened outbreak of hostilities in that part of the Mediterranean. Hence a few statistics, culled from official sources, will not be uninteresting or out of place. The population in 1857 was 17,376, of whom 1,379 were aliens. The births and deaths are in the ratio of 639 to 573, and the marriages number about 150 a year. The revenue is 33,603*l.*, and the expenditure nearly the same, or 33,010*l.* The duty on spirits (consumed) yields a third of the revenue, while port rates and dues contribute 6,991*l.*, and ground and house rent 4,769*l.* 4,533 vessels, of 879,896 tons, entered Gibraltar in 1857, and 4,443, of 868,512 tons, cleared out. The British and colonial vessels entered inwards were 607 in number; the others included 48 American ships, 32 Dutch, 324 French, 1,571 Spanish, 661 Barbarian (in the geographical, not the classical sense of the word), and 1,290 not classified. The average prices of provisions in 1857 were: wheat, 10*s.* per bushel, and flour 32*s.* per barrel of 196*lb.*; bread (best) 2½*d.* per *lb.*; horned beasts 12*l.* each; horses 25*l.* each; sheep and goats 28*s.* each; swine 40*s.* each; milk 6*d.* per quart; fresh butter (always dear at Gibraltar) 1*s.* 6*d.* per *lb.*, and salt butter 5*d.* per *lb.* less; cheese 1*s.* per *lb.*; beef, mutton, and pork, 7*d.* per *lb.*; rice 3*d.* per *lb.*; coffee 1*s.*, and tea 2*s.* per *lb.*; sugar 6½*d.* per *lb.*; salt 1*d.* per *lb.*; port and sherry 30*l.* per pipe (a rise of 10*l.* since 1855); brandy 50*l.* per pipe; beer 6*l.* per hogshead (about 2*s.* 3*d.* per gallon); and tobacco 2*l.* 10*s.* per cwt. Domestic labour was worth 26*s.* per month, and trades 6*l.* per month.

INTOLERANCE.—Those who, having magnified into serious evils by injudicious opposition heresies in themselves insignificant, yet appeal to the magnitude of those evils to prove that their opposition was called for, act like the unskilful physician who, when by violent remedies he has aggravated a trifling disease into a dangerous one, urges the violence of the symptoms which he himself has produced in justification of his practice.—*Archbishop Whately.*

THE BIBLE IN THE REIGN OF ELIZABETH.—At that great time of religious conflict every one read and knew the Bible. It was the whole literature then, as it almost is now, of the poor—their story-book, their teacher, their encyclopedia, their tragedian, their week-day preacher. It had never been a sealed book; but still it was then sown broadcast over the land. It was the storehouse of artists and designers. The great manor-house pictures were taken from it, so were the church-window stories, so the legends for cups and chairs, so the scenes for the stiff tapestry, so the poems and the pageants. Shakespeare drew from the Bible, so did Marlowe, so did Spenser, so Du Bartas, so everybody.—*Athenæum.*

PUBLIC INCOME AND EXPENDITURE.—During the year ended the 31st of December, 1859, the total income of the United Kingdom was 66,070,469*l.*, and the total expenditure 68,090,053*l.*, thus exhibiting a deficit of 2,019,583*l.*

Recreative Exercises.

. The Proposer is, in each case, required to forward to the Editor the Answer *in detail*, with the Exercise.

IV.—The initials of the answers to the following questions will give the name of the *last* and most *upright* of the Judges of Israel :

1. A young man chosen by God from the tribe of Benjamin to be king over the Israelites.
2. A person who was stoned with his family, and who were afterwards burned, together with his property, for appropriating to his own use certain articles dedicated to God.
3. The father of the twelfth Judge of the Israelites.
4. A soldier who was murdered in order to hide the wickedness of his king.
5. Name of the King of Israel who was murdered with his family, by one of his officers, while in a state of intoxication, and who thus fulfilled the prediction of the prophet Jehu.
6. Name of the woman converted by St. Paul at Philippi. J. H. SMART.

V.—The *initials* will give an emblem of sin, and an emblem of eternity.

The *finales* will give the name of a woman, eminent for her works of piety and charity.

1. A beast punished by God for a sin committed through the agency of Satan.
2. A mother, whose two eldest sons were consumed by fire, for despising that which God had appointed.
3. The name of a man, whose son was the founder of a distinguished posterity, remarkable for their peculiar mode of life, who gained their livelihood by being scribes, and were especially blessed by God.
4. The name of the second husband of Michal, the daughter of one of the Kings of Israel.
5. What Christian sacrament corresponds to the Jewish Passover ?
6. The name of a native of Judah, who was cup-bearer to Artaxerxes Longimanus.
7. A city of Macedonia, in which St. Paul established a church, chiefly among the Gentile converts. CHARLES F. REDMAN.

ANSWERS.

III. (p. 19.)—1. The *Ivel* in Bedfordshire; 2. The *Ivel* in Somersetshire; 3. *Levi*, the patriarch (Gen. xxix. 34); 4. *Levi*, one of the twelve disciples (Mark ii. 14);—5. *Evil* (adj.); 6. *Evil* (subst.); 7. *Live* (coal); 8. *Vail*; 9. *Vile*; 10. *Lies*.
The French *article* *Le* (the) taken from *LEVI* (or *VILE*) will leave *VI*, the Roman numeral representing half-a-dozen. URBAN.

Answered also by Quentin, and "D. D."

TESTING OF CHRONOMETERS.—The number of chronometers tested and rated at the Liverpool Observatory in 1858 was 392; and during 1859 the number deposited for testing was 396. The amount received for this work in 1858 was 147*l.* 15*s.*, and in 1859, 169*l.* 11*s.* The increased charge from 7*s.* 6*d.* to 21*s.* for testing did not appear to prevent those wishing to purchase these instruments from having them tested.

THE THREE AGES OF MAN.—In the morning we carry the world like Atlas; at noon we stoop and bend beneath it; and at night it crushes us flat to the ground.—*H. Ward Beecher.*

THE ROLL OF THE HOUSE OF LORDS.—There are now 458 peers, spiritual and temporal, on the roll of the House of Lords, printed on 1st February. His Royal Highness the Prince of Wales heads the list, and Henry Lord Taunton is the last.

Notes and Queries.

•• We wish it to be distinctly understood that we do not guarantee that all the *notes, replies, &c.*, are correct. Criticisms on lessons, parsing, &c., are requested. The Subscribers to the "Pupil-Teacher" should consider themselves as members of a Mutual Improvement Society, and regard our periodical as their medium of intercommunication.

Our Notes and Queries are of three classes:—

I.—Mathematical.

II.—Philological, including Grammar, Paraphrasing, Composition, &c.

III.—Miscellaneous, including all questions on subjects of Study or Method. Questions of Discipline or Management, affecting Pupil-teachers, are discussed in the EDITOR'S COUNCIL.

In sending answers, merely refer to the number and page thus:—"Mathem. No. —, p. —;" "*Philol.* No. —, p. —;" "*Miscell.* No. —, p. —."

N.B.—The *number* refers to the *query*, not to the "Pupil-Teacher."

MATHEMATICS: SOLUTIONS, &c.

5. (p. 9.)—The equations are $xy = x^2 - y^2$ 1
 $2x^2(x - y) = x^2 + y^2$ 2

Adding (1) and (2)

$$2x^2(x - y) + xy = 2x^2$$

$$\text{Hence } 2x^2 = \frac{xy}{1 - x + y} \quad 3$$

$$\text{From (1) } 2x^2 = 2y(x + y) \quad 4$$

Equating (3) and (4), and reducing, $2xy - x = 2y$

$$\text{Whence } x = \frac{2y}{2y - 1} \quad 5$$

Substituting in (1) the value of x from (5), and reducing, give $4y^2 = 5$.

$$\text{Therefore, } y = \frac{\sqrt{5}}{2}$$

$$\text{And from (2) } x = \frac{5 + \sqrt{5}}{4}$$

W. G. W.

Also: E. H., and Urban.

(*Ib.*)—If the equation were $xy = x - 2y$, then putting $x = vy$, v is found to be $= 2$ or -1 .

If the former value be taken, y is found from the 2nd equation to be $\frac{5}{4}$ and $x = \frac{5}{4}$.

If the latter, $y = -\frac{1}{2}$, and $x = +\frac{1}{2}$; but quadratics must be employed to find v . ALPHA.

When the base and vertical angle are constant, locus is a circle (Euc. III. 21); and hence, when the triangle is a maximum, the perpendicular is a maximum, but this is the case only when that line is the

greatest ordinate, and therefore it must be a part of the diameter, and consequently must bisect the base ; and hence the triangle is isosceles.

W. G. W.

Demonstrated by Campbeltown.

The following employ diagrams :—Bick ; Jim Young ; Epsilon ; Irvine ; S. Edwards.

8. (p. 9.)—Let x = No. at first.

and $\frac{80}{x}$ = what each would in shillings.

$x - 2$ = No. left after two sneaked off.

$\frac{80}{x} + 2$ = what each had to pay in shillings after two had sneaked off.

$$\therefore \left(\frac{80}{x} + 2 \right) x - 2 = \left(\frac{80}{x} \right) x$$

$$\frac{80x - 160}{x} + 2x - 4 = 80.$$

Multiply by x ,

$$80x - 160 + 2x^2 - 4x = 80x.$$

$$2x^2 - 4x = 160.$$

Solving this equation,

$$x = 10 \text{ No. at first.}$$

ZED.

Similarly by A. Bright ; Urban ; Alpha ; John Sinclair ; Robin Hood ; Bick ; Leonidas ; Jim Young ; Oxoniensis ; Beverlac ; Pen ; S. Edwards ; George K. Hitchcock ; "Gamma" and "Epsilon," Irvine ; Amelia ; John Brown ; Farquharson ; Campbeltown ; Tinto.

9. (p. 9.)—Let the boat's velocity in still water be x miles per hour, then the velocity up the river will be $x - 2$ miles per hour, and down $x + 2$ miles, also the time up will be $\frac{y}{2x - 4}$ hours, and down $\frac{y}{2x + 4}$ hours.

$$\text{Wherefore } \frac{y}{2x - 4} + \frac{y}{2x + 4} = \frac{5}{3}$$

This reduces to $5x^2 - 21x - 20 = 0$
or $(x - 5)(5x + 4) = 0$.

hence $x - 5 = 0$ and $x = 5$ the velocity in still water.

W. G. W. ;

Similarly : Alpha (*two correspondents under this signature*) ; S ; Edwards ; Campbeltown.

10. (p. 9.)—Let the whole line = $2a$, and consequently half the line = a ; and let the line between the points of section = m , and therefore the greater of the two unequal parts = $a + m$, and the less = $a - m$.

$$\text{Then } (a + m)^2 = a^2 + 2am + m^2$$

$$\text{And } (a - m)^2 = a^2 - 2am + m^2$$

$$\text{Adding these } (a + m)^2 + (a - m)^2 = 2a^2 + 2m^2$$

* That is, the sum of the squares of the two unequal parts is equal to twice the square of half the line and the square of the part between the points of section.

S. EDWARDS.

Similarly:—Alpha; Farquharson; Trigon; E. H. J.; Novissimum Agmen; J. Lothian; W. R. High; Cymro am Byth; Wm. Shaw; John Sinclair; Campbeltown; A New Correspondent; James Young; Edward Matthews, and others.

12. (p. 10) Eq. 1.	Eq. 2.	
	Divide 1st eq. by $vx + vy$, then	
$2x - 3y = 2$	(1)	$vx - vy = 1$
$8x^3 - 27y^3 = 37xy$	(2)	$x^3 - y^3 = 37$
Divide (2) by (1) $4x^2 + 6xy + 9y^2 = \frac{87}{2}xy$		$x + vxy + y = 37$
Square (1) $4x^2 - 12xy + 9y^2 = 4$	(3)	$x - 2vxy + y = 1$
Difference $18xy = \frac{37}{2}xy - 4$		$3oxy = 36$
$\therefore 24xy = 192$	(4)	$4oxy = 48$
Add (3) & (4), and extract root $2x + 3y = 14$	(5)	$vx + vy = 7$
From (5) and (1) $x = 4$		$x = 16$
And $y = 2$		$y = 9$
		E. W. L.

Similarly:—Annie; Stephen Edwards; Trigon; Anglus; Aaron Smith; J. W. Mills; G. B. N. P.; James Young, Montrose.

13. (p. 10.)—In geometrical investigation, negative quantities originate thus:—If a line drawn in any certain direction be called affirmative, then that which is drawn in the opposite direction must be accounted negative. Thus in the trigonometrical diagram, the cosine is a line extending from the foot of the sine to the centre of the circle; and as it is accounted affirmative in the first quadrant, it must, from its contrary direction, be reckoned negative in the second.

In the co-ordinate system we have negative as well as affirmative ordinates; and taking a simple example, as finding the equation of a line, attention must be paid to the *signs* of the ordinates, otherwise the equation would not represent the position of the line.

A circle may cut an ellipse in four points, and consequently the equation representing the points of intersection will have four roots. Now, to make the subject clear, let the origin be taken at the extremity of the transverse diameter, and that line itself for the axis (of x); then, if the circle cut the ellipse in four points, two will be on each side of the axis, and hence the equation will have two affirmative and two negative roots. If the circle cut in two points only, or in none at all, then the equation will have two or all its roots impossible. Impossible roots signify that the square root has to be taken of a negative quantity.

A notation has been invented lately to represent the inverse functions of angles by negative indices. Thus, instead of writing as formerly, the angle whose sine is m , we have merely to write $\sin^{-1} m$, and so for the

other functions. A similar notation has also been adopted for inverse logarithmic quantities. The logarithm of a number less than unity has to be expressed by a negative characteristic.

Some writers assert that negative quantities are "less than nothing." But this is quite a mistake, as such quantities have as real an existence as affirmative ones, only they stand in the position of having to be subtracted. This is easily seen by the operation of transposition in equations.

W. G. W.

If Philomathes requires a history of the first use of negative quantities, he had better apply to some work on the Progress of Mathematical Science; if he wants an account of their present use and laws, why not consult some elementary works, such as "Todhunter's Algebra, Trigonometry, and Conic Sections," instead of requesting some of your correspondents to make a very inferior and incomplete compilation from some such works? The pages of the *Pupil-Teacher* ought not to be filled up with matter accessible to every one in ordinary elementary works.

E. W. L.

14. (p. 10).—A simple rule applicable to this and similar examples, is this—
Divide the product of the days by their sum

$$\therefore \text{No. of days required} = \frac{216}{30} = 7\frac{1}{5} \text{ days.}$$

This rule occurred to me while thinking over the above sum, and having never seen it before, I endeavoured to find the rational of it.

It is founded on the axiom, that an equation is still an equation if each side be multiplied by the same quantity.

Suppose x and y be the times taken respectively by A and B to complete the job, then—

$$\text{Amount done in one day} = \frac{1}{x} + \frac{1}{y} = \frac{x+y}{xy}$$

$$\text{Time in which the work will be done} = 1 \div \frac{x+y}{xy} = \frac{xy}{x+y}$$

Multiply the amount done in one day $\frac{x+y}{xy}$ by the product of the

days xy , we have $x+y$ the sum of the days, so that the sum of the days is really the amount of work done in one day multiplied by the product of the number of days.

If we now multiply one day by the same product, we have $1 + xy = xy$ the product of the days.

Divide the product by the sum, and we have $\frac{xy}{x+y}$ the time in which the work would be done as above.

$$\therefore \frac{\text{Product of days.}}{\text{Sum of days.}} = \text{No. of days required.}$$

PEN.

Two other correspondents adopt the same elegant method as that pointed out by PEN.

Divide the product of the two numbers by their sum, and the quotient will be the time in which both would finish it working together.

$$\text{i.e. } 216 \div 30 = 7\frac{1}{5} \text{ days. } \text{Answer.}$$

Proof.—It is plain that no two numbers but 12 and 18, whose sum is 30, will produce 216.

∴ A alone competes it in 12 days, doing $\frac{1}{12}$ in 1 day, and
 B " " 18 " " $\frac{1}{18}$ "

Hence, $\frac{1}{12} + \frac{1}{18} = \frac{5}{36}$ = portion of the work done in 1 day by both working together.

$\frac{5}{36}$ done in 1 day.

∴ $\frac{36}{5}$ " $\frac{1 \times 36}{5} = 7\frac{1}{5}$ days, as above.

"DAFYDD."

G. Hayward (Newark), the other correspondent, gives no demonstration.

Correct answers have also been sent by the following :—S. Moss, Gloucester; J. W. Mills; Silex; F. E. B.; Susannah; W. G. W.; Sam; S. Edwards; Annie; Anthony Gillespie; F. Jones; Aëran Smith; F. W. N. P.; G. Hayward; Pitt; and others.

ERRATA.—(Vol. II.) page 260, twice for $\sqrt{a^4 + (a^2 b)^2}$ read $\sqrt{a^4 + (a^2 - b)^2}$.

Page 263, for x , read x^2 ; and for y , read y^2 .

MORNING THOUGHTS.

The silv'ry gates of morning now expand—
 How still! as if some seraph had those gates
 Herself unbarred, entrusted with the wand
 Of Heaven's own love. Night with her starry mates
 Have fled the sky; the morn irradiates
 The east; there is a joy which day-break brings—
 A bright awakening to life from sleep,
 With recreated strength—the anthem deep
 Of morn's first dawn which Nature still in glory sings.
 Then should these gifts of joy attune to praise
 The harp-strings of the human soul; should wake
 Its chords to Him above in grateful lays:
 From hearts sea-depths, pure as the snowy flake
 Should come the rendering up (as when shall quake
 The earth at last, and sea her treasures yield)
 The rend'ring up of heart's best gems in prayer,
 Whilst yet a calm is on its surface fair,
 And Life's foes of the day are not yet in the field.
 Dream not away the invaluable gift;
 But with unceasing ardour let the mind
 Soar upward, and aloft on pinions swift
 Insatiate till her goal be reached; designed
 To roam, by its Creator, unconfined.
 Man is the builder and the architect
 Of his own mind's abode; the dungeon dank,
 And subterranean into ruin sank,
 Or Happiness own edifice with smiles bedeck'd.
 Yet not with heart ungenerous, or unfired
 By e'en the embers of Philanthropy,
 Entomb thou in the earth thy powers; inspired
 By Heaven with talents onward hie
 And Knowledge gain; thou true and heartily
 Devote thy work to bless the human kind;
 Frame out some scheme of kind beneficence
 That when its blest contriver has from hence
 Long-gone, the fabric still shall live with flowers entranced.

UNKNOWN.

Notes to Correspondents.

All Communications for the Editor should be addressed "The Editor of the Pupil-Teacher, 54, Paternoster Row, London, E.C."

METHOD OF ASKING OR ANSWERING QUESTIONS.—Our numerous correspondents would save us an immense amount of labour, and be less liable to disappointment from their communications not being promptly attended to, by attention to the following points:—

1. Write *only on one side* of the paper.
2. Keep each subject distinct from others.
3. *Head* each subject thus:—"Editor's Council," "Notes and Queries," "Editor's Questions," &c. &c.
4. Leave a space at the top and at the bottom of the paper.
5. Write your (real or assumed) name on each separate paper.
6. Always let your communications be accompanied by your name and address. For publication you may adopt any signature you please.

Thanks (for Contributions, Answers, kind Letters, &c.)—John Sinclair; Nil Desperandum; Leonardo da Vinci; A. B. C.; Domingo; Sallie, Alfred Morris; A. F. Gillespie; S. Edwards; Troisième; E. B. Loyna; John Gandy; Semaj Slig; T. P.; J. R.; Geo. R. Hitchcock; Clio; William Collinson; F. T. Read; Joseph Schofield; M. A. W.; Wolsey; Robert Waite; T. C.; M. A. M.; H. M. S.; Urban; Sapere Aude; Elizabeth Rees; Quentin; J. B.; Sobriquet; W. A. Timbrell; Edward Casey; Last Rose of Summer; John Smith (Bristol); W. P.; Thomas Dick; T. J.; R. H. (Winton); F. T. Read; Pitt; Campbelltown; Trigon; W. G. W.; E. A. Polkinghorne; Aaron Smith; Pen; J. H. Spence; W. C.; Thomas L. Simpson; Kate F.; *Mucpaw*; One-and-All; Mira; Excelsior; Henry Foot; W. H. (Birmingham); James Fenton; R. N. R.; Susannah; Joannes; Omi; R. Fishendon; Benedict; R. McWilliam; T. Isaac; Ichabod; Campbelltown; Thomas Willey; W. Rowe; R. G. Roe; Nicholas; Unus; C. F. Redman; F. Jones; Falmar; Annie, Margate; Anglo-Saxon; Scio; Joannes Davis Lucilla; S. T.; Blenheim; H. D.; Silex; Lowick; John Garland; D. W.; Kenneth; Wm. Morley; and many others of dates subsequent to the 20th ult.

Received.—J. D. Jones; Unus; A. M. N.; W. A.; C. H.; and many others.

Battles.—*March.*—We are obliged to omit not only the article on the use of the lists of battles, but also the "List of Battles, &c., for March." They are unusually long this month, the *longest* of the six best having items, the *shortest* upwards of 300! It shall appear in July or August. The lists for *April* should be sent in on or before Saturday the 17th inst.

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TO OUR SUBSCRIBERS.—WANTED COPIES OF NO. XIV.

Those of our Subscribers who have copies of No. XIV. of the PUPIL-TEACHER not required, and will forward the same, post free to the publisher, will receive by return of post other books published at four times the price of the PUPIL-TEACHER. An early reply is respectfully solicited.

ANSWERS TO CORRESPONDENTS.

Prize Cards (W. W.).—Our correspondent says, "Another thing which I wish to bring under your kind consideration is, whether it would not be advisable to offer prizes for the best articles contributed on certain subjects, to be named by yourself; these prizes to consist of neatly-embossed cards, stating for why, and to whom it is given, &c. The expense would be small, and there would be something to stir up emulation amongst lazy P. T.'s."—We thank you for the suggestion, but we are convinced that our young friends would rather see their best articles in print in the *Pupil-Teacher* than be rewarded with a card, however neatly embossed.

Writing (E.M.S.).—Much too stiff; your next question is rather an awkward one. Our safest answer is,—1. Many much worse writers have passed very creditably, their indifferent writing notwithstanding. 2. If you passed in certain other subjects satisfactorily, your writing would not, *per se*, prevent your passing. (*J. S.*)—It wants boldness, write larger, and aim at uniformity; a little attention will render your handwriting really good. (*Domingo*)—A decided improvement. (*Watson*)—Promising, but poor. (*Sobriquet*)—You remove your pen from your paper too frequently, and separate letters which should be joined, e.g., "good" appears "g o o d." This is your chief fault in writing. (*Spy*)—If you enclosed the specimens to which you refer, we must have mislaid them; our opinion, therefore, will be with reference to your letter. Too much flourish; lack of uniformity of character; composition meagre for a fifth year; you have (twice) written *weather* for *whether*!

Pursing (Dolorosus).—A sorry fellow, indeed! Your impudence nearly equals its source—your ignorance. Here is an exercise for you:—"When you are in the company of one who is in the habit of writing scurrilous and anonymous letters, take care of your pockets!"

Editor's Council (Dolorosus).—A capital chance for you! But as you are "at a loss to think," we are not alarmed. Solomon warns us concerning you (Prov. xxvii. 22).

"*Daily Attendance*," (— and others).—We maintain that Pupil-teachers' names should not be in the register of daily attendance, and that Pupil-teachers should not be reckoned in the daily average. We believe that no Master or Mistress would feel offended by a Pupil-teacher respectfully calling his (or her) attention to this answer. We may fairly assume that the practice adverted to results, in many cases, from error of judgment.

Government Offices (Est).—"The Master Key to Public Offices and Candidates' Complete Instructor." Houlston and Wright. 1860.

"*Gilbraith and Haughton's Manual (Euclid)*."—Yes.

Government Situations (Gonzalva).—None. He would require the same qualifications and influence as any other candidate.

Merchant's Clerkship (Gonzalva).—Your knowledge of French and Italian might be accounted a set-off against your writing; you might improve that—it is good, but very different from a mercantile hand.

First Attempts (Omi, J. R., Benedict, and many others).—Well done!

Two PAGES of Answers are ready for publication.

RUSSIAN MANUFACTORIES.—The *Journal de St. Petersbourg* says:—"The special commission appointed to draw up regulations for the manufactories and industrial establishments of this city has recently called to its aid several noted political economists, and these gentlemen have proposed to the commission that 12 years of age, instead of 10, shall be the earliest period at which children shall be allowed to work in factories. From that age to 14 they are not to work above six hours per day, and between 14 and 16 twelve hours at the utmost. It is also proposed to keep the males and females separate, and that all factory children shall be made to go to school."

THE PUPIL-TEACHER.

ANNIVERSARIES.

"WHAT is the use of noticing anniversaries of battles or birthdays, or of any other events, public or private, political or religious? Whatever has happened, *has* happened, and cannot possibly happen again; whatever is, is; and whatever is to be, will be."

With such erudite questions and such recondite reasoning, volumes might be filled from memory by almost any one who has taken an active part in education.

One utilitarian would like to know what it matters to anybody who has to earn a living, how far the earth is distant from the sun, or what is the difference between latitude and longitude! Another "'wise-acre'" could never make out why poor children should be bothered about ethnology—for it is nothing short of it to talk about the different races of mankind. What does it matter to us whether the Asiatics are descendants of Shem or of Shadrach, or of anybody?" A third ridicules the idea of teaching children parsing: "What is the use of it? I never learnt it, and I can always make people understand what I say, if they understand English at all." To bestow even a passing notice on the objections which are incessantly urged by the supercilious and the ignorant would subserve no good purpose.

Contemptible as such objections may be, they are oft-times very annoying to zealous Teachers and to the friends of popular education. But it is still more disheartening to young teachers to hear those whose claim to be heard on questions of education is based chiefly, if not solely, on their experience as masters or mistresses, contemning every branch, and every method, of instruction with which they themselves are not conversant, and which, perchance, is beyond their dull comprehensions.

And yet young Teachers should exercise great forbearance towards those whose office, age, and experience, entitle them to respect, however crude or erroneous their ideas on certain points may be. Many of the best elementary Teachers of the present day never served an apprenticeship to their profession; some of them had not even the advantage of a normal-school training; and yet how energetically and how effectually have they laboured! How many a Queen's scholar who will, in after years, attain an enviable eminence in the educational world, will ascribe that eminence to a Master or a Mistress whose zeal or faithfulness more than compensated for lack of extensive and deep learning, and for ignorance of what we delight to call the "approved methods" and "improved systems!"

There are, we fear, too many Pupil-teachers ever ready, and always delighted, to detect the weak points of their masters and mistresses, and

yet they would, very properly, reprimand any children who would ridicule adults—especially parents—on account of ignorance; they would, very properly, point out that children now-a-days have educational advantages unknown or unappreciated when those adults were children. This subject is so important that we shall, perhaps, take an early opportunity of advertng to it again. Our reason for touching it now is simply this: Some few Teachers cannot see the use of Pupil-teachers employing a portion of their spare time in compiling lists of battles, such as are published in our pages. Far be it from us to insinuate that this results in every case from dullness, or even from prejudice. Whilst we admire the quickness of comprehension of some young Pupil-teacher who discovers in such lists uses which we left unobserved, we can readily understand how it is that some “experienced Teachers” deem the compilation of the lists a waste of time, and the publication of them a waste of space.

In a few months the *Pupil-Teacher* will contain lists of the Anniversaries of Battles, &c., for every day in the year. Then the real “exercises” of our young friends “on battles” will commence. This by the way. In the mean time we wish them to try their skill in showing the uses of such lists, and we shall, therefore, just “dot down” a few brief notes by way of suggestion:—

I. The observance of anniversaries is a great aid to the memory.

Now, suppose that you have thirty children in your class. Ask each one when his last birthday anniversary was (or when his next will be); how old he was (or will be) then. Put down on the black board the date (day, month, and year) of each birthday. Now for your lists! Now for eager curiosity! You begin: “Brown, you were born on the very day that the last Paris revolution began! Jones, you were born exactly 200 years after this town was captured by the Republican Parliament! Robinson, you were born exactly four years after the battle of Sobraon was “lost and won,” and so on throughout the class. The better way, perhaps, would be to ascertain, out of school hours, the birthday anniversary of each one in your class; “when found, make a note of it,” and against it note the historical event which you wish to be remembered—a copious list will afford you a selection. You then come prepared to give a lesson in history which will not fail to please, and will not soon be forgotten. Each one will regard some portion of it as a “personal” matter. By and by you will find that your pupils will want to know about other events which happened exactly so many years before their birthdays. You will find, too, that the class will intuitively form itself into a “Mutual Instruction Society.” Murray will be proud to associate his name with that of Marlborough; Thomson will rejoice that he and the hero of Trafalgar have something *almost* in common; and Watts will proudly tell that he was born exactly thirty years after the battle of Waterloo. They would talk over such “coincidents,” and play-mates would be interested in each other’s anniversaries.

Then you might give exercises in Spelling (Spell *Seringapatam*); in Geography (Where is Trafalgar?); in Mental Arithmetic (Stubbs, who will be twelve on the —th of —, was born 150 years after the battle of —; when was that battle fought?).

II. Dates given in Histories, especially in small ones, such as are commonly used in schools, differ very materially, not only with regard to days and months, but also with regard to years. We could give hundreds of instances. Some were, in the first instance, merely clerical or typographical errors, and they have not only been retained in subsequent editions, but they have also been copied by other authors who have taken no trouble to ascertain their correctness. Authorship is an easy matter to some.

Now, we believe that it will ere long appear that the labours of certain ingenious plodders whom we could name are of essential service to elementary school literature. It will be shown how inaccurate many school "Histories" are, and how the difficulty in remembering dates is increased by such inaccuracy.

III. Carefully perusing works to collect information on any one particular subject is productive of great benefit to the student. Much may be said to justify this assertion, but we believe that every experienced, *well-educated* Teacher, and every successful student, can bear testimony to its correctness.

In a review of an excellent chronological work, the *Index of Dates*, in the last number of the "English Journal of Education," we find the following remarks:—

"A good Teacher should not only give all the information which it is in his power to give, but he should also instruct his pupils in the art of obtaining information. He may bring before his pupils bright specimens from the mines of knowledge, but he should also lead them to those mines, and teach them how to work them most advantageously."

This we endeavour to do; this we earnestly recommend Pupil-teachers to do. We now leave this subject in the hands of our young friends.

NOTES OF A LESSON ON A QUILL PEN.

1. The quill pen possesses a quill or barrel, stem and beard.
2. The quill is cylindrical, hollow, of a variable degree of hardness, and mostly transparent.
3. The stem is four-cornered, and filled with a white pith.
4. The beard consists of many fine fibres.
5. The pen, when made, has a nib, slit, and cradle.
6. Quill pens are usually obtained from geese.
7. The mature quills fall from the geese in May and June.
8. The quills which are plucked from the geese are inferior to those which fall of themselves; for not being quite matured, they are too soft.
9. Each wing of the goose contains five quills fit for use.
10. The pens made from the quills of the left wing lie in the hand more conveniently for writing, than those from the right wing.
11. Feathers from the wings of ravens, peacocks, turkeys, and storks, can also be used for writing.
12. Goose quills are the best for that purpose.
13. Quills are rendered brittle by being baked in an oven.
14. Quills thus hardened are either clear and transparent, or opaque.
15. Quills must be cut, before they can be used. Pens are also manufactured from steel, brass, silver, gold, and other metals.—From *Schaible's "Exercises on the Art of Thinking."*

NOTES OF A LESSON ON MOUNTAINS.

I. What a mountain is :—

1. What it is, and its different parts.
2. Of what composed.
3. The height at which an elevation becomes a mountain.

II. In what manner found :—

1. Isolated.
2. Grouped.
3. Ranged.

III. Uses :—

1. To feed rivers.
2. To shelter or screen the country from the cold blasts of the Polar regions, or the hot breezes of the tropics.
3. To supply us with minerals, &c.
4. To serve as sheep pasturages.

ABSTRACT OF THE ABOVE.

I. A mountain is a piece of land elevated above the surrounding country. The principal parts of a mountain are :—the summit (top), the base (bottom), and the sides. If a mountain have other heights jutting out from it, they are generally called cliffs. Mountains are composed of various kinds of substances, *e.g.* :—

<i>Rock.</i>	{ As most of the Scottish mountains (bare and dreary); Rocky mountains of North America. Copper.—As Parys in Wales.
<i>Mineral</i>	{ Precious Metals and Stones.—As Oural and Altai in Asia ; Andes in America.
<i>Combination.</i>	{ Granite.—As Dartmoor in Devonshire. Chalk.—As Downs in Kent, &c. ; Salisbury Plain in Wiltshire ; and Inkpin Beacon in Hampshire.
<i>Soil or Mould.</i>	{ As some of the Cumbrian Group, and the Southern parts of the Pennine Range, Yorkshire, &c.

The height required for a mountain is 1000 feet.

II. When a mountain stands alone, or unconnected with any other, it is said to be *isolated* ; as Snowden (Wales), and Ararat (Armenia, A.M.) ; but sometimes a number of them are found in an irregular, or confused position, with regard to each other ; these are called *a group*, as the Cumbrian group ; but if these mountains stretch in the same direction, in a regular course, they are then called *a range*, as the Andes, with the Rocky Mountains (America). Ranges of mountains form the watersheds of countries, and affect the drainage of those countries in various ways—as for instance, the *length of the rivers*, the *rapidity of the waters*, and the *direction to which they flow*.

III. The uses of mountains are various and important. It is generally allowed that more rain falls in elevated countries than elsewhere, consequently, as water as a natural tendency to find the lowest level, when the rain falls on the mountain it flows down the sides, and makes its way to the lowest ground, at the base, and the streams uniting in the valley, form these rippling brooks which intersect our country. Mountain streams are

also formed or swollen by the melting of the snow, which covers most of the highest mountains. The brooks flow into the rivers, and swell their streams; thus they may be said to *feed rivers*.^{*} Mountains are often of great value, as well as use, from their being partly composed of minerals, which are extracted from them as from mines; thus proving of great benefit to mankind, in *furnishing him with minerals*. But in many countries, where the mountains are composed of soil, they produce grass in abundance, and on account of the trouble of mowing, drying, and housing, &c., the grass, in such places, they serve better for *sheep-pasturages* than for any other purpose.

Mountains are enormous structures, useful as gigantic; constructed by God alone, to whom all praise is due, for the use and benefit of mankind. They also contribute to man's enjoyment, by varying the appearance of the country, and so making it pleasant and interesting.

MNEMOCHRONICS.

In 1087, William Rufus began to reign. His brother should have succeeded, but William resolved not to *ask him*.

In 1180, glass was first used for private houses in England. In his windows every one this substance now *likes*.

In 1282, Edward I. added Wales to his conquests. He found that it was a difficult task to *take it*.

In 1521, the title of Defender of the Faith was conferred upon Henry VIII. by Pope Leo, still *retained*, borne, by our sovereigns. But if it had retained its original intention the consequences might have proved *fatal*.

In 1124, Alexander I. of Scotland died. Those who struggled for the independence of the clergy lost a resolute *leader*.

In 1153, David I. died. He was a good king when *living*.

In 1641, took place a terrible massacre of Protestants. That body were in great *peril*.

In 1642, the gates of Hull were shut against Charles I. This measure was very *pert*.

In 410, the Romans withdrew from Britain. From Roman sway the Britons obtained their *release*.

In 871, Alfred began to reign. In these perilous times this able king *came well*.

In 1017, Canute ascended the throne. There were many rivals, but he *slew them*.

In 563, Columba crossed from Ireland into Scotland, and blessed the land with the knowledge of Christ. We now reap the benefits of the *boon*.

In 843, the Picts and Scots were blended into one, thus forming the Scottish nation. Kenneth Macalpin then held the *crown*.

^{*} Mountains are also a means of lessening the extremes of heat and cold to a more temperate degree.

In 644, Cambridge University was founded by Sebert, who built a church where the abbey now stands. He intended it to be a place for prayer.

In 1651, Charles II. was defeated at Worcester. The deep-laid plans of Cromwell he could not *baffle*.

In 1403, was a plot to deprive Henry IV. of the crown. The king's life was in great *risk*.

In 1141, Stephen was defeated and taken prisoner at Lincoln. Maud won the *laurel*.

In 1263, the Danes were defeated at Largs, and great numbers were driven into the sea, their fleet having been destroyed in a storm. They received an unlonged-for *dipping*.

In 1801, Aboukir Fort was captured by the British. It was an important *castle*.

In 1812, was fought the disastrous battle of Krasnoi. In this battle, a very great number of the French were *killed*.

In 1602, the Tyrone rebellion in Ireland was put down. From the time in which it began to that when it was put down, seven years *passed*.

In 1605, the gunpowder plot was discovered. If it had been carried into effect, the king and his parliament would have been *passive*.

In 1610, the Bible, which we now use, was published by orders of James I. of England. Of all his actions this deserves the first *place*.

In 1742, Walpole retired from office. As a statesman he deserves no great *merit*.

In 1844, Lord Rosse finished his gigantic telescope. This has opened a new fountain in the astronomical career.

AB. STURROCK.

THE WAY TO BE HAPPY ALL THE DAY LONG.

DESCRIBED IN SEVERAL RULES PROPER TO BE READ IN ALL FAMILIES.*

"Godliness is profitable for all things, having the promise of the life that now is, and of that which is to come."

I. BEGIN and end every day with God: in the morning, when you awake, lift up your thoughts to God. Think how great a mercy it is that you have had a night's rest, and have been spared to see another day. Think how many spent the night past in prison, or in tormenting pains and sickness. Think how many souls were last night summoned to appear before God, and how soon your last night may come.

II. Offer up in secret your prayer and thanksgiving to God, before you begin your worldly business. It is much better to go from prayer to business, than from business to prayer: for if the world get the start of religion in the morning, it is hard for religion to overtake the world all the day after. Let no trifling excuses make you neglect prayer: it will be

* Published on a sheet (14 in. by 9 in.), by G. J. Stevenson, 54, Paternoster Row. Price, One Penny.

better to take a little time from sleep now, than to have to lament your negligence hereafter.

III. After prayer to God, set about the labour of your calling with diligence and industry. God has sent no man into this world to be idle, but to labour, either with the mind or the body, or with both. He who says, "Remember the Sabbath to keep it holy," says also, "Six days shalt thou labour."

If you are called to the meanest and most laborious calling, murmur not at it, but consider that it is the appointment of God; and in obedience thereto, be diligent in your place; and, in doing this from a regard to His command, you will glorify God as truly, while working at the plough or the loom, as the minister in the pulpit or the sovereign upon the throne. "The Lord looks not at the outward appearance, but at the heart."

IV. Be strictly just and upright in all your dealings: remember that golden rule, "To do unto others as you would have them to do in like cases unto you;" and also considering those solemn words, "That what measure ye mete to others, it shall be measured to you again."

If you are a parent or master, take care that you rob not your children or servants, by your intemperance or neglect, of what you are bound to provide for their bodily comfort, and, above all, for the instruction of their immortal souls. If you are a servant or apprentice, rob not your master, either wilfully or carelessly, of that property which is entrusted to you, or of that time in which you are engaged to serve him.

V. Labour after an heavenly frame of mind in the midst of earthly business. While your hands are diligently employed in needful work seek to have your heart close with God. Endeavour to improve the time in profitable thoughts, or short prayers, which will be no hinderance to business, but will keep you from vain thoughts, and make you more careful to avoid temptations.

VI. In doing your duty in your calling, humbly depend on God's fatherly care to bless your endeavours, and seek for His grace to teach you to trust in Him, in all events that may befall you. Do you meet with sickness, or losses, or difficulties?—see and acknowledge God's hand in them, and pray to Him to support you, and whatever befalls you here, to make it work for your good in eternity. Do you meet with success and comfort?—own the hand of God in it; and when He sends comfort, let it be your care to return Him praise.

VII. Watch daily against every sin that besets you, and avoid all evil company. Remember, that "A companion of fools shall be destroyed." When temptations attack you, pray to Heaven for power to resist them; knowing, that whenever you yield to a temptation the Holy Spirit is thereby grieved.

VIII. In the evening, take a view of your actions in the past day—humble yourself before God for all your sins, and pray for His pardoning mercy, through Jesus Christ, to cover all your guilt. When you have done the best you can, you will have cause to say, you are an unprofitable servant.

IX. Esteem the Bible as the greatest treasure on earth, for it teaches the blessed way to Heaven. If you are a parent, see that your children

are taught to read their Bibles, and to understand them : and pray not only in secret, but with your family ; remembering that strict account which must one day be given for each soul committed to your care.

X. Make much of precious time, and especially of the Sabbath. Think how great a blessing it is to live in a land where the Word of God is preached, and where the way of salvation is so publicly declared. Think what numbers of poor creatures are without the advantages which you have, and how they will rise to condemn you, at the day of judgment, if such means of salvation are neglected.

LASTLY: Whatever you suffer in this world, think what your state would be if you were dealt with as your sins deserve. Remember that the least sin is more to be feared than the greatest suffering, and that God's favour is more precious than any earthly good.

** Read over these Rules carefully once a week, and examine how you have observed them in the week past. If you follow them, your life will be blessed, your death happy, your eternity glorious ; but if you despise them and neglect the care of your immortal souls, remember—"Life is short ; Death, Judgment, and Eternity are fast approaching ; therefore prepare to meet thy God."

ORAL TEACHING.

To secure the attention of a body of young children, while giving an oral lesson, is perhaps one of the most difficult parts of teaching that presents itself to a novice. If the pupil's attention can be obtained at the commencement of a lesson, generally, it is obvious that it may be easily maintained the remainder of the time, with a little experience on the part of the Teacher, as nearly all lessons become more and more interesting as they advance towards the conclusion ; and therefore the children will have a natural tendency to listen to the information given for their benefit, without giving the Teacher any extra exertion to maintain their attention.

The following suggestions for securing attention and good order while giving an oral lesson may perhaps be acceptable to some of your readers:—

I. That the pupils be strictly prohibited talking, and be made to sit in a convenient manner, with their arms folded.

II. That the Teacher should stand at such a distance, and in such a position, as to enable every pupil to see his face.

III. That all black-boards, maps, diagrams, &c., required to illustrate the lesson, should be ready for immediate use when wanted, and placed in such a manner as to enable all the pupils to see them without moving from their seats.

IV. That the Teacher should make it a general rule never to leave the class while engaged in giving an oral lesson.

V. That, if possible, the Teacher should find some attractive name for his lesson, which will enable him to secure the attention of his pupils. This plan can be very successfully pursued in the giving of Scripture lessons. For instance, if the Teacher wished to give a lesson on "Noah," let the title of the lesson be changed to "The first shipwright," or some equivalent phrase. If on "Dives and Lazarus," to "The rich poor man

and the poor rich man." If on "Jonah," to "The living ship." If on "Naaman," to "The little slave," &c. &c. &c.—In some cases (when most convenient) it would be a good plan to disguise the real name of the lesson, and not make it known until near the end.

VI. To divide each lesson into four parts, and, at the conclusion of each part, to examine the pupils on the part previously explained to them.

VII. At the conclusion to make an examination (oral) on the whole of the lesson given.

VIII. To place the *incorrigibles* (if any) nearest the Teacher, and to trouble them with the most questions at the time of examination.

If Teachers arrange their lessons in a logical and interesting way, they will find, that, after obtaining the attention of their pupils once, their lessons will afterwards be courted, and that no extra exertion will be required for the preservation of order and attention.

CHARLES F. REDMAN.

DISCIPLINE.

MANY years ago, when I kept school, I had under my care a boy remarkable for his perversity and self-conceit. He was clever to learn, and in many respects was not a bad boy, but his self-esteem was so great, that when he did offend, it was a matter of impossibility to make him aware of it, much more to confess it. I often put the inquiry to him, why he was sent to school at all, if he were as wise and as faultless as he represented himself. But raillery from his companions, and lectures from myself upon this weak point in his character, seemed all without effect. Thought I, one day, this boy's will must be broken by a judicious series of thwarting, and he must be made to obey without reasoning. Vigorously I set to work, and often my heart grieved over the apparently unkind and despotic way in which I exercised my power over the lad. Severe was the struggle between us as to who should be master, but keeping principle in view, I was enabled to persevere. After months of labour, I was repaid in the following occurrence :—

We were assembled, as usual, in class one morning, and G. D. was at the head. I generally kept my eye upon him, ready to pounce down upon any just occasion for rebuke. I saw him twirl the leaf of his book, and fixing my eye upon his hand, I said, "Go down to the bottom of the class." He instantly obeyed, but with a flush on his broad brow that bespoke a severe mortification. When the question came to his turn, to my great surprise, he gave his intelligent reply in a cheerful tone and a good-humoured air, that seemed to say, in a plain school-boy phrase, "I'm not a bit angry." I looked at him for a moment with the pleasure that I felt, and said, "Go back to your place, you understand obedience now; henceforth you and I need struggle no more." From that day forward the boy gave me no more trouble, and I was well rewarded for months of daily discipline.—OLD JONATHAN.

Editor's Exercises.

BIOGRAPHY.

2. A short, but full sketch, of the life of Robert Devereux, Earl of Essex.

HISTORICAL GEOGRAPHY.

8. Write out, methodically and briefly, historical notes relative to Chichester.
9. Write out, methodically and briefly, historical notes relative to Guildford.

ANSWERS.

HISTORICAL GEOGRAPHY.

5. (p. 16) WINDSOR.

Edward the Confessor granted it to the Monastery of St. Peter (Westminster).

The Abbot of St. Peter's surrendered it to William the Conqueror in exchange for lands in Essex.

William I. erected the Castle.

William I. held a council of state here in 1097, "to consult upon the reduction of the Welsh."

Henry I. held a council here in 1107. "He issued a severe edict against coiners, and abolished the custom of seizing on wrecks on the coasts; he also made a regulation of weights and measures, but at the same time revived the detestable tax of wane-geldt."

Henry I. kept his Whitsuntide festivities in the Castle in 1118.

Henry I. held a great council here in 1127, "at which were present Stephen of Boulogne (afterwards King Stephen), and David, King of Scotland."

John resided at Windsor Castle at the time when he signed *Magna Charta* at Runnymede, 1215.

Henry III. went from Kenilworth Castle (where he was besieged by the Barons) to Windsor, where he kept his Christmas, 1267.

The Castle was a favourite residence of the first three Edwards.

Edward III. was born in the Castle, Nov. 13, 1313, and he gave a grand tournament there in 1334.

In 1364-5 Edward III. employed William of Wykeham to rebuild the Castle. No part of the Conqueror's castle was preserved except three towers at the west end of the lower ward.

Philippa, Queen of Edward III., died in the Castle, August 16th, 1369.

Henry VI. was born in the Castle, December 6th, 1421.

Edward VI. founded St. George's Chapel, 1473.

Queen Jane Seymour, the sixth wife of Henry VIII., and the mother of Edward VI., was buried in the chapel, October 15th, 1537.

Robert Testwood, Henry Filmer, and Anthony Pierson, were burnt at the stake for heresy in 1543.

Henry VIII. was buried in the Chapel in 1547.

In 1548, a Royal Commission met at Windsor, in May "and drew up a Book of Common Prayer, which was approved by Convocation, and finally ratified by an Act of Parliament in the ensuing January. It was enjoined to be used for all Divine Offices, from the feast of Whit Sunday following, and was published by Whitechurch on the 4th of May, 1549." This was the first Prayer Book of Edward IV.

Charles I. was buried in the Chapel.

A Consultation between the chiefs of the realm was held here in 1688, after the first escape of James II.

The undecayed corpse of Edward IV. was discovered in the Chapel March 11th, 1789.

George IV. was born in the Castle 12th August, 1762; and William IV. was born there, 21st August, 1765. Both are buried there.

1. (p. 40) BIOGRAPHY.

1. I. *Introduction*.—Among those heroes, whose deeds of valour have contributed in the raising of England to the pinnacle of naval glory in which it now stands, Blake claims the headship.

II. *Birth, Parentage, and Early Life.*—Son of a merchant of Bridgewater, (Somersetshire); born there, 1598; received the rudiments of education at its grammar-school; went to Oxford; enters there at St. Alban's Hall in 1615; removes to Wadham College, and acquires the title B.A. 10th February, 1617; wrote some verses on the death of Mr. Cobden; left the university soon after; elected M.P. for his native town, chiefly through the influence of the Puritan party (to which sect he belonged); lost his seat next session.

III. *Military and Naval Enterprises.*—Sided with the Parliament at the explosion of the civil war; performed his first heroic action at Bristol, 1643, where, even after the governor of the town had surrendered, he still held out a small fort, which had been committed to his charge (for this he nearly lost his life); served in Somersetshire under Popham, Governor of Lyme; along with Sir Robert Pye surprised Taunton; appointed its Governor 1644; voted £500 by Parliament for holding out that town against Goring, a Royalist; appointed in 1649 to command the Parliamentary fleet, along with Desane and Popham; sent in pursuit of Prince Rupert; blockades him in Kinsale harbour from June to October, when Rupert breaks through, with the loss of three ships; pursues him to Lisbon, takes five of the Brazil fleet, richly laden; blockades him in the River Tagus till October, 1650, when he, along with Popham, sunk the Admiral, took the Vice-Admiral, and eleven other ships, with 100,000 chests of sugar on board, and burnt three more of the Brazil fleet bound for Lisbon; captures a French man-of-war, worth £1,000,000; pursues Rupert to Cathagena, thence to Malaga; here burnt the whole of his fleet but two ships; captures a French man-of-war, Feb. 1651; receives the thanks of Parliament; made Warden of the Cinque Ports; appointed Admiral, or General, 4th March, 1651; elected one of the Council of State for subjecting Scilly and Guernsey; engages and defeats the Dutch under Tromp, Dover Roads, 18th May, 1652; again defeats them under De Witte and De Ruyter, North Foreland (Blake lost 300 men, the Dutch their Admiral, Rear-Admiral, three sunk or blown up 28th Sept.); engaged and defeated by the Dutch under Tromp, 30th Nov. (Blake was wounded, lost his Secretary, Captain, 100 seamen, and a great many wounded; the Dutch gained only the name of victory); again engages and defeats them under Tromp and De Witte, 18th February, 1653; also on the 19th and 20th (the Dutch in all lost 11 men-of-war, 30 merchantmen, 2,000 killed, and 1,500 taken prisoners—this was the first action at which he used small arms); assisted in routing Tromp, 4th June; appointed a Commissioner of the Admiralty; sent, in Nov. 1654, into the Mediterranean to demand reparation for past offences committed on British merchantmen; burnt the fleet of the Dey of Tunis in the harbour, because he consented not; cruised before Cadiz, 1656; defeated and burnt the Spanish fleet in one of the Canary Islands, 1657; cruises before Cadiz; returns home.

IV. *Death and Burial.*—Seized with a distemper (a complication of dropsy and scurvy), effected by three years' sea life and want of the commodities and care requisite for his cure; died, entering Plymouth Sound, 17th August, 1657, aged 59 years; embalmed next day in lead; his bowels taken out and buried in Plymouth Church; his body carried, by order of Cromwell, to Greenwich by sea; thence carried with pomp and solemnity to Westminster Abbey; there interred in a vault, prepared for him, in Henry VII.'s Chapel; afterwards taken up, by order of Charles II., and buried in a pit in St. Magdalene's Churchyard.

V. *Character.*—Zealous for faction; an inflexible republican; patriotic, disinterested, generous, liberal; ambitious of true glory; dreadful only to avowed enemies; beloved and respected by his countrymen.—*Hume.*

VI. *Notes.*—The first man to teach ships to contempt castles on shore, which had ever before been considered terrible; to look on them as things making a noise, but which could do no hurt. The first man to infuse that degree of fortitude in our seamen which is requisite for our own defence, and by which they can boast themselves as "Masters of the Sea."—*Clarendon.*

JAMES FENTON.

The following have contributed papers equally or nearly as good:—F. J. Read, Bristol; John Garland; One-and-All; E. B.; Loyna; Soubriquet; W. E. Priestley; F. Jones, Falmer; Sapere Aude; George K. Hitchcock; Alfred Morris; Lowick; Semaj Slig; Douro; G. M. Sharp; Quentin; Lucilla.

Notes and Queries.

*** We wish it to be distinctly understood that we do not guarantee that all the *notes, replies, &c.*, are correct. Criticisms on lessons, parsing, &c., are requested. The Subscribers to the "Pupil-Teacher" should consider themselves as members of a Mutual Improvement Society, and regard our periodical as their medium of intercommunication.

Our Notes and Queries are of three classes:—

I.—Mathematical.

II.—Philological, including Grammar, Paraphrasing, Composition, &c.

III.—Miscellaneous, including all questions on subjects of Study or Method. Questions of Discipline or Management, affecting Pupil-teachers, are discussed in the EDITOR'S COUNCIL.

In sending answers, merely refer to the number and page thus:—"Mathem. No. —, p. —;" "*Philol.* No. —, p. —;" "*Miscell.* No. —, p. —."

N.B.—The number refers to the *query*, not to the "Pupil-Teacher."

1. GEOLOGY (p. 1).

Few topics present a more interesting field of inquiry and investigation, both to the archæologist and geologist, than the first traces of man upon the earth. Numerous instances are on record of the discovery of human remains associated with those of extinct species of the rhinoceros, hyæna, bos, deer, and bear, exhibiting as advanced a degree of fossilization as the bones of these inferior mammals. The following instances of these phenomena are extracted, in a condensed form, from Sir Charles Lyell's "Principles of Geology":—

In several caverns in the neighbourhood of Liege, Dr. Schmerling discovered human bones in the same mud and breccia as the bones of several species of extinct mammalia, amongst which were rhinoceri, bears and hyenas; and from their disposition, and the absence of fæcal remains, considers that they were deposited by aqueous agency.

In a cavern situated in the department of Aude, M. Tournal met with fragments of pottery, and human remains, in a calcareous, stony mass, consolidated by a cement of stœlagnite, in which also the remains of extinct animals were abundant.

M. de Christol discovered at Pondres, in the department of Herault, human bones mixed confusedly with fragments of pottery, bones of extinct rhinoceri, deer, and hyenas. These occurred in alluvial mud of the solidity of calcareous tufa, belonging to the tertiary formation. To test their antiquity, they were compared with bones obtained from a Gaulish sarcophagus exhumed from the plain of Lunel, which undoubtedly had been buried for at least fourteen or fifteen centuries. The cellular tissue of these bones was empty; but although they had lost three-fourths of their original animal matter, yet, when applied to the tongue, they would not adhere as those of Aude and Pondres.

But whether or not these remains were deposited anteriorly to the Noachian deluge remains to be shown. If, as some theologians would have us believe, the human race extended over a large portion of the habitable globe prior to that catastrophe, then it is possible that these are the remains of antediluvian races; but if, on the other hand, as some eminent biblical interpreters would teach, the human family was confined within the circumscribed precincts of Western Asia till after the Flood, then of course these remains could not be antediluvian, and it would be useless to extend the researches for such relics beyond that district.

From another passage in his "Principles," Sir C. Lyell seems to indicate that no traces have as yet been discovered of the primæval races; but as the countries they inhabited are the centres of volcanic agency, which is favourable to the

embedding of man and his works, the combined skill of the antiquarian and geologist will bring to light some mementoes of these primitive races. Fearing to trespass too much on your valuable space, I will confine these remarks to their present limits, simply adding, that to do justice to the subject would occupy much more space than your columns will permit.

SILEX.

PHILOLOGICAL: PARSING, &c.

No. 7. (p. 42).—PARAPHRASING.

On the fix'd rock immoveable he sits,
Day after day, from morning until even,
O'er the blue expanse his keen eye outstretch'd,
Hoping at last exultant to discern
Homeward returning, from the far-off climes,
The barque on which his thoughts are centred all.
Something he sees, where sky and ocean meet;
Alas! 'tis some poor sea-bird in its flight,
Yet fondly, fondly Fancy would it deem
The wish'd-for vessel's topmast, or white sail.

AARON SMITH.

[As our esteemed correspondent observes, "a paraphrase in blank verse is somewhat of a novelty." We gladly publish his very creditable effort, although we fear that it will not be appreciated by many of our young friends. The very first line will puzzle them; they will doubt whether "immoveable" qualifies the noun which precedes it or the verb which follows it. We regret that Mr. A. Smith did not send us a prose paraphrase also. Out of nearly seventy sent in, we have not six really *good*, not one *excellent*.—Ed. P. T.]

Apparently as incapable of motion as the rock on which he is sitting, he strains his eyes in every direction over the dreary ocean; for whole days his vigilance is unabated, and he strives to lure himself into the belief that the sea-bird in the distance is the topmast sail of a ship.

URBAN.

The *twenty-five* next best: Pen, Benedict, Maria, R. Fishendon, S. T., J. Wade, Troisième, A. F. Gillespie, Quentin, J. H. Spence, W. Rowe, T. L. Simpson, Omi, Mikros, Joanna Swanson, R. G. Roe, Ichabod, Lowick, El-tio-Tomas, Mira, Sobriquet, R. N. R., E. B. Loyna, John Gandy, Maria, R. McWilliam. These names are *not* given in the order of merit.

7. (p. 42).—Arranged by the Editor from six papers: A. Smith (1); Pen (2); Quentin (3); Benedict (4); Maria (5); M. A. M. (6). The *asterisk* (*) denotes *all*.

[The only words on which real difference of opinion can be entertained are *albatross* and *sail*. The twenty-five best papers in addition to the above six: Urban, Douro, X. Y. Z., Chronon, and the remaining twenty-one whose paraphrases we have mentioned.]

Sits.—Verb, irreg. 2, 3, 4, 5, 6, intr. 1, 2, 3, 5, 6, neut. 4, ind. pres. sing., agr. with its nom. *he*.*

Is.—Verb (like *sits**) agr. with *rock*.*

Rock.—Noun, com., neu., sing., nom. to *is*.*

Seat.—Noun (like *rock**) in app.

Days.—Noun, com., neu., plu. obj. (gov. by *for* und.)*

Striving.—Part. pres. of *v. to strive*.*

Albatross.—Noun, com., (prop. 3) sing., com. gen.,* obj. (gov. by *believe*) 1, 2, 3, 4, nom. (to *is* und.) 4, 5, and (doubtful) 1.

Sail.—Noun, com., neu., sing.,* obj. (in app. with *albatross*) 1, 3, nom. (aft. to *be* und.) 2, 3, 4, 5, 6, and (doubtful) 1, who remarks, "and this by supplying 'that' after 'believe.' In this case the whole sentence following the conj. 'that,' is the *object*."

MATHEMATICS: SOLUTIONS, &c.

4.* (p. 9).—

1st. Reduce $5\frac{1}{2}$ lbs. and $52\frac{1}{2}$ lbs. to the L.C.D. = $\frac{22}{4}$ and $\frac{209}{4}$ 2nd. Reduce $5\frac{1}{2}$ shillings and $18s. 6d.$ to pence = 69 and 222.Then, amount paid for $\frac{22}{4}$ lbs. at $69d.$ per bushel = $6d.$

$$\begin{array}{rclcl} \text{"} & \frac{1}{4} & 69 & \text{"} & = \frac{6}{22} \end{array}$$

$$\begin{array}{rclcl} \text{"} & \frac{1}{4} & 1 & \text{"} & = \frac{6}{22 \times 69} \end{array}$$

$$\begin{array}{rclcl} \text{"} & \frac{1}{4} & 222 & \text{"} & = \frac{222 \times 6}{22 \times 69} \end{array}$$

$$\begin{array}{rclcl} \text{"} & \frac{209}{4} & 222 & \text{"} & = \frac{222 \times 209}{11 \times 23} \end{array}$$

$$= 183\frac{9}{23} \text{ pence} = 15s. 3\frac{9}{23}d.$$

W. J. J. REYNOLDS.

Cost of $5\frac{1}{2}$ lbs. of bread, wheat at $69d.$ per bushel = $6d.$

$$\begin{array}{rclcl} \text{"} & 1 & \text{"} & 69 & \text{"} & = \frac{6}{5\frac{1}{2}} \end{array}$$

$$\begin{array}{rclcl} \text{"} & 1 & \text{"} & 1 & \text{"} & = \frac{6}{5\frac{1}{2} \times 69} \end{array}$$

$$\begin{array}{rclcl} \text{"} & 52\frac{1}{2} & \text{"} & 1 & \text{"} & = \frac{6 \times 52\frac{1}{2}}{5\frac{1}{2} \times 69} \end{array}$$

$$\begin{array}{rclcl} \text{"} & 52\frac{1}{2} & \text{"} & 222 & \text{"} & = \frac{6 \times 52\frac{1}{2} \times 222}{5\frac{1}{2} \times 69} \end{array}$$

$$\text{By multiplying and canceling} = \frac{4218}{23}d. = 15s. 3\frac{9}{23}d.$$

PEN.

* These five answers to the 4th question have been for many months in type. It is contrary to our present plans to publish several solutions of one question, unless for some particular reason.—Ed.

$$\begin{aligned}
 \text{Cost of } \frac{11}{2} \text{ lbs. of bread when wheat is } \frac{23}{4} \text{ s. per bush.} &= 6d. \\
 \text{" } 1 \text{ lb. " " } \frac{23}{4} \text{ s. " } &= \frac{6 \times 2}{11} \\
 \text{" } 1 \text{ lb. " " } 1 \text{ s. " } &= \frac{6 \times 2 \times 4}{11 \times 23} \\
 \text{" } \frac{209}{4} \text{ lbs. " " } 1 \text{ s. " } &= \frac{6 \times 2 \times 4 \times 209}{11 \times 23 \times 4} \\
 \text{" } \frac{209}{4} \text{ lbs. " " } \frac{37}{2} \text{ s. } &= \frac{6 \times 2 \times 4 \times 209 \times 37}{11 \times 23 \times 4 \times 2} = \\
 15 \text{ s. } 3 \frac{9}{23} \text{ d. Answer.} & \text{ JOHANNES DAVIES.}
 \end{aligned}$$

$$\begin{aligned}
 5 \frac{1}{2} \text{ s.} &= \frac{23}{74} \text{ of } 18 \frac{1}{2} \text{ s.} \\
 \therefore 6d. \text{ after the rise will purchase } \frac{23}{74} \text{ of } 5 \frac{1}{2} \text{ lbs.} &= \frac{253}{148} \text{ lbs.} \\
 \text{If } \frac{253}{148} \text{ lbs. of bread are purchased for } 6d. & \\
 \text{Then } \frac{1}{148} \text{ lbs. " } \frac{6}{253} \text{ d.} & \\
 \text{And } \frac{148}{148} \text{ lbs. or 1 lb. " } \frac{148}{253} \text{ d.} & \\
 \text{And } 52 \frac{1}{2} \text{ lbs. " } \frac{148 \times 209}{253 \times 4} & \\
 (i. e.) \quad 183 \frac{9}{23} &= 15 \text{ s. } 6 \frac{9}{23} \text{ d. BICK.}
 \end{aligned}$$

In the first place, we had better reduce all the fractions to units of the same kind. Thus :—

$$\begin{aligned}
 5 \frac{1}{2} \text{ lbs.} &= 5 \text{ lbs. } 8 \text{ oz.} & \text{or} & 88 \text{ oz.} \\
 52 \frac{1}{2} \text{ lbs.} &= 52 \text{ lbs. } 4 \text{ oz.} & \text{or} & 836 \text{ oz.} \\
 5 \frac{1}{2} \text{ s.} &= 5 \text{ s. } 9 \text{ d.} & \text{or} & 69 \text{ d.} \\
 18 \text{ s. } 6 \text{ d.} &= 18 \text{ s. } 6 \text{ d.} & \text{or} & 222 \text{ d.}
 \end{aligned}$$

Solution :—

$$\begin{aligned}
 \text{Cost of 88 oz. when wheat is at } 69 \text{ d. per bushel} &= 6d. \\
 \therefore \text{" } 1 \text{ " } 69 \text{ " } &= \frac{6}{88} \text{ or } \frac{3}{44} \text{ d.} \\
 \text{And " } 1 \text{ " } 1 &= \frac{3}{44} \div 69 = \frac{3}{3036} \text{ d.} \\
 \therefore \text{" } 836 \text{ " } 1 &= \frac{3}{3036} \times 836 = \frac{2508}{3036} \text{ d.} \\
 \text{And " } 836 \text{ " } 222 &= \frac{2508 \times 222}{3036} = \frac{556776}{3036} \text{ d.} \\
 \text{And } \frac{556776}{3036} \text{ d. when reduced} &= 15 \text{ s. } 3 \frac{9}{23} \text{ d.}
 \end{aligned}$$

ROBERT S. BRADLEY.

One of the above demonstrations is adopted by the following respectively ; John Sinclair ; George K. Hitchcock ; Leonidas ; A Briton ; A True Blue ; Mira ; Farquharson ; Amelia ; Whiskers ; R. McWilliam.

[NOTE.—Thirty-one correspondents are clear in the demonstration, but not quite correct in the working.]

6. (p. 9).—The silver cylinder weighs 360 oz., and the golden one 6 oz. \therefore the whole mass weighs 366 oz. = 5856 drs.; and when this mass has been drawn through the series of holes, 202 ft. in length, weighs 1 dram \therefore the length of 5856 drs. is 5856 drs. \times 202 ft. = 1,182,912 ft. = 394,304 yds. = 224 miles 64 yards. OXONIENSIS.

Similarly :—A True Blue ; Puer timidus ; John Sinclair. Correctly answered also by Robin Hood ; Beverlac ; A Briton ; Thomas E. Jones ; John Brown ; Alpha ; Edward Matthews ; A. Baker ; Urban ; Vaccine.

7. (p. 9).—By Euclid, III., 21. The triangles may all be described in the same segment of a circle ; and the area of that triangle whose altitude is the greatest is manifestly the greatest, *i.e.*, the area of the isosceles triangle on the given base is a maximum.

Compare also Euclid, I. 37.

ALPHA.

11. (p. 10).—It is obvious that many have very crude notions of the principles of operation required by their queries. What can be more ridiculous than H. T.'s request for a solution of a question *inima et max minima with TWO VARIABLES*, in as *simple* a manner as possible, by ARITHMETIC !

E. W. L.

17. (p. 10).

The horse will perform the greatest amount of work when rt is a maximum ; that is, when $250r - 41\frac{2}{3}r^2$, or $6r - r^2$ is a maximum.

$$\text{Put } 6r - r^2 = m,$$

$$\text{then } r^2 = 6r - m;$$

$$\text{hence } r = 3 \pm \sqrt{9 - m}.$$

Therefore, when m is a maximum, it is = 9 ; in this case $\sqrt{9 - m} = 0$; consequently $r = 3$, the rate of travelling required.

[I sent you a solution by the diff. cal., but as you object to employ that science, the above is invented. Fermat's plan, though algebraical, still involves the same principle as the diff. cal.]

W. G. W.

18 (p. 10).

By transposition and re-arrangement.

$(x^2 + 100x + 1)(x + 99) = 0$. From which, taking (1) — $x + 99 = 0$, we have $x = -99$; or taking (2) — $x^2 + 100x + 1 = 0$, we obtain by comp. \square , &c., $x = -50 \pm \sqrt{2499}$.

AARON SMITH.

Similarly : Urban, Fergus ; Campbeltown ; Anglus.

23 (p. 41).

His savings = $\frac{1}{4}$ of what he spends; or
 $\frac{1}{5}$ of his whole income.

His income is diminished by $\frac{1}{2}$ of his savings.

$$\frac{1}{2} \text{ of } \frac{1}{5} = \frac{1}{10} = \text{diminution of income.}$$

ROBIN HOOD.

Let y = his income at first
 and $4x$ = what he spends;
 then x = what he saves,
 $\therefore 4x + x = 5x = y$,
 $\therefore x = \frac{1}{5}y$.

Again, let z = his income afterwards,
 then $z - 4x$ = what he spends,
 $\therefore z - 4x = \frac{1}{5}x$,

$$\therefore z = 4\frac{1}{5}x = \frac{9}{5}x = \frac{9}{10}y,$$

hence his income is diminished by $\frac{1}{10}$

S. EDWARDS.

Similarly: Aaron Smith; George Hitchcock; Urban; Clio; Campbelltown; Susannah; R. McWilliam; Pen; Wolsey; Kenneth; Johannes Davies; Lowick.

PHILOLOGICAL QUERIES, &c.

EDIT. NOTE.—Answers still required for Nos. 5 and 6 (p. 11).

J. (A PUPIL-TEACHER).—1. Paraphrase the following passage:—

"Finally, as to this whole point, about not offending in our speech against piety, we should consider that—as we ourselves, with all our members and powers, were chiefly designed and framed to serve and glorify our Maker (it being withal the greatest perfection of our nature and the noblest privilege so to do)—especially our tongue and speaking faculty were given us to declare our admiration and reverence of Him, to express our love and gratitude toward Him, to celebrate His praises, to acknowledge His benefits, to promote His honour and service."

BARROW.

2. Analyze this passage grammatically.

3. Break it up into three or four short complete sentences, retaining, as far as possible, the original words. What does it gain, and what does it lose, by this transformation?

4. Point out the propositions in the above passage, and show the peculiar force of each.

5. Parse the words "about," "offending," "that," "as," " (twice)," "it," "tongue," "speaking," "us," "reverence," as they occur above.—*Queen's Scholarship Examination Paper, Christmas 1859.*

MATHEMATICS.

25. (ABERCROMBIE).—A solution of the following equation (from Hind's), with an explanation of the method used?

$$\begin{aligned}x^2 + xy + y^2 &= 13 \\x^2 + xz + z^2 &= 31 \\y^2 + yz + z^2 &= 49\end{aligned}$$

26. (W. G. W.).—If three cubic inches of cast iron (sp. gr. 8,000) be formed into a concave globe, so as to float when immersed in water, it is required to find its diameter when the part immersed is a minimum. Solve the above without the differential calculus.

MISCELLANEOUS.

11. (W. WILKINSON).—"Give an account of the acquisition of the West Indian Islands."—*Pardoe's Manual*.

Correspondence.

MORAL AND RELIGIOUS TRAINING.

To the Editor of the PUPIL-TEACHER.

DEAR SIR,—I read with pleasure Robert M'Inwan's communication on Moral and Religious Training. Yet, as one interested in THE TRAINING of the young, allow me to say that I think all he has said may not wisely be endorsed. I fully agree with him that we must teach by example as well as by precept, not only in the school (in giving dry, prosy lectures on morality), but in the play-ground, at cricket, at football, or at snowballing. Neither do I want to make children controversialists. R. M'Inwan, I feel quite certain, construes Isabella Lever's words in a way she never intended. He says (p. 31), "As a general rule, children should be made as little as possible acquainted with evil. Good examples should be set before them to follow, rather than bad examples to eschew." And yet in the very next paragraph he gives us a most sensible reason for doing quite the contrary. He says, "Were it so that every one called Evil evil, and Good good, *then* we need not fear telling children of the evil in this world; but Falsehood, ever changing, dresses herself in the most charming and seductive colours, and, calling herself Truth, beckons mankind to follow; and how many, in the simplicity of childhood, follow her until, too late, they find out her true character."

Now, Sir, if Evil were always called evil, and Good good, one maxim would be sufficient. "Avoid evil: cling to good." But Falsehood walks in the robes of Truth. While we teach children how to perform the "voyage of life," shall we not tell them of the rock where "such an one" made shipwreck of his faith; of the quicksands where another was lost; of the whirlpool which drew another into its murderous jaws?

R. M'Inwan would send them out on the ocean of life, and never tell them of one of its dangers. Could we wonder, then, if they were lost; nay, but rather if they were saved? We must point out the evils; we must teach them to distinguish between evil and good, and give them an infallible guide to steer by.

SCIO.

PUPIL-TEACHERS' THIRD YEAR EXAMINATION PAPERS.

To the Editor of the PUPIL-TEACHER.

SIR,—For the benefit of a "Certificated Mistress,"* I send you a copy of the Questions we of the Scottish Episcopal School had at the "close of the Third Year."

SCRIPTURE, CATECHISM, AND LITURGY.

1. During what reigns did Isaiah prophesy? Give some account of Isaiah or Ahaz.
2. "Behold a virgin shall conceive and bear a son." On what occasion were these words spoken? Quote four of the most important prophecies from Isaiah, and show their fulfilment.

3. Give an account of the first appointment of deacons.

4. Write out the prayer of St. Chrysostom, and explain how it ends different from other prayers.

5. Write out the answer to the question, "What dost thou chiefly learn in those articles of thy belief?" and illustrate it by the Apostle's Creed.

MATHEMATICS.

1. Give the rule for pointing decimals in multiplication, and illustrate it.
2. Multiply 102 by 7, and prove your answer by vulgar fractions.
3. Reduce 5s. 3d. to the decimal of 7s. 6d., and £2 4s. 8½d. to the decimal of £5.
4. In a garden one-third (*of the trees*) were cherry, one fourth plum, one-third apple trees, and thirteen peach trees; how many were there in the garden, and how many of each kind?
5. Enunciate and prove Prop. VII., Book I.
6. If the exterior angle of a triangle be produced, it is greater than either of the interior opposite angles.

GRAMMAR.

1. Explain the adverb as you would do to your first class. Give examples in which it qualifies (a) adjectives; (b) adverbs; (c) participial substantives; and (d) numerals.
2. Define a preposition. Give instances in which the same word is used for an adverb and a preposition.
3. What is meant by an adjective sentence? Give three examples, and clearly explain the adjective sentence in each.
4. Analyse the whole, and parse the first two lines:—
 "On Linden, when the sun was low,
 All bloodless lay the untrodden snow;
 And dark as winter was the flow
 Of Iser, rolling rapidly."

GEOGRAPHY.

1. Give an account of Canada, or India south of the Nerbudda.
2. Give the British possessions south of the equator.
3. Draw a map of Ireland, Wales, or Australia.
4. Give the position of the following places:—Gibraltar, Heligoland, Corfu, Mauritius, Falkland Islands, Trinidad, Singapore, Penang.

HISTORY.

1. Give the list of the Stuart sovereigns in England, with the dates of their accession.
2. Give an account of one of the following men:—Raleigh, Cromwell, Wolsey, Wycliff.
3. Give the events of Scotland in relation to English history in the reigns of Edward I., II., and III.

METHOD.

1. What is the use of writing from dictation? How would you correct at dictation lesson?

2. How would you begin to teach reading?

ICHABOD.

[Our correspondent informs us that the above questions are formed from his answers on his scrap-paper.—Ed. P. T.]

* "Educo," p. 63.

PLAGIARISM.

To the Editor of the PUPIL-TEACHER.

Sir,—In a letter by "R. J. Vincent," I am imputed with having committed a "literary theft," about which I beg permission to say, that in transcribing the extract alluded to, I quite forgot to state "from what source it was derived."

It was not my intention that the answer should be received as a "production" of mine, for, when writing it, I had no idea of seeing it in the pages of the PUPIL-TEACHER, or that it would be acknowledged; however, for the future, I shall be more careful in transcribing, so as not to be any more charged with committing a "literary theft."

If you will kindly insert the above in your next, you will greatly oblige,

Yours respectfully,

March 7th, 1860.

R. W. EDEN.

Original Poetry.

TRAIN THE HEART.

Oh! train the heart—the heart that pulsates quick,
 With all the grand domain of Life outspread
 Fraught with a vision's charms; the frail, the weak,
 The crazy tenement thou needest not
 With deep concern to study how to clothe
 Superb; how deck this temple ruinous
 In unavailing garb. Lo! Nature sits
 Herself arrayed in robes unparalled;
 Thrown in her lap "the lilies of the field."
 The throng of heaven to form a diamond crown;
 And yet invested thus by Providence
 Who cares for thee and her. Then not the frame
 Destined to earth, but heart, heaven-born, seek ye
 To train in loveliness. Oh! train the heart.

Yea! train the heart in smiles. Roaring the laugh
 Of revelry resounds; through spacious halls
 Reverberating, mirth presides in joy.
 The streams of gay hilarity flow on
 Apace, and swamp the heart. But ah! how soon
 Subside the inundating waves to leave
 An arid waste of melancholy there,
 And channels dry. Let smiles pervade the heart
 A halo of sweet smiles unbroken e'er,
 Like that of heaven when Cynthia stalks thro' sky
 Unclouded. Peaceful and unnettled mid
 Life's thousand stings. Oh! train the heart in smiles.

Oh! train the heart in love. Yon flinty rocks
 Dash'd wildly o'er the mountain sides are not
 More hard; yon dismal depths of ocean caves
 Are not more dark than heart whose tyrant power
 Hath exiled love. As well despoil the earth
 Of that great sun; ivy of its tendrils;
 Or moon of lustre bright, as to becloud
 The human heart with feelings dark'ning love.
 Let mighty sunbeams from creation fair
 Expand the soul to love the beauties there
 Colossal and minute; in harmony
 With Nature's universal pæan, that sounds
 Majestic in the avalanche, or sweet
 In the soft song of birds; in gratitude
 To Him who placed thee in this Paradise
 Oh! train the heart in love.

UNKNOWN.

THERE be three things which, of all others, I will never strive for—the wall, the way, the best seat. If I deserve well, a low place cannot disparage me so much as I shall grace it; if not, the height of my place shall add to my shame, whilst every man shall condemn me of pride matched with unworthiness.—*Hall.*

Intelligence.

TELEGRAPH BETWEEN ENGLAND AND INDIA.

THE first private telegram between India and England, *via* the Red Sea route, was received at Lloyd's on the 16th ult., dated Calcutta, March 10, thus reducing the communication between the chief Presidency of India and the capital of England, to a period of six days. When the entire line of telegraph wire has been laid, the period of communication will be reduced to two days. The telegram referred to was as follows:—"Calcutta, March 10.—Ship *Red Gauntlet*, bound to London, burnt and scuttled. Some cargo will be saved."

THE ZOOLOGICAL GARDENS.

FOLLOWING close upon the great Salamander of Japan, a second novelty of no less singular aspect, but belonging to a different class of beings, has just arrived at the Zoological Society's Gardens. This consists of two living specimens of the celebrated bird of the White Nile, first made known to naturalists in 1851, through the exertions of the Abyssinian traveller Mansfield Parkyns, and named by Mr. Gould *baleniceps rex*. The whale-head, as its name imports, is a large stork, provided with an enormous-pelican-like bill, and further resembling the latter bird in its capacity for devouring fish. Mr. Petherick, Her Britannic Majesty's Vice-Consul at Chartoum, at the junction of the White and Blue Niles, has the credit of first introducing this extraordinary creature into Europe in a living state. In the month of June of last year Mr. Petherick assembled at Chartoum two elephants, two rhinoceroses, four hippopotami, and nine rare birds for conveyance to Europe. Of this noble collection the present pair of the *Baleniceps* and one young male hippopotamus alone, we regret to say, have survived the nine months' journey to London. The *Baleniceps* inhabits the reedy marshes on the banks of the White Nile, beyond the 4th degree of north latitude, where it was obtained by Mr. Petherick during his arduous explorations into those regions, of which he has lately given an account before the Royal Geographical Society. The Zoological Society's specimens are suffering from the rough usage they met with during the bad passage from Alexandria to Southampton, but there is a prospect of their speedy recovery.

APPOINTMENT.

MR. JAMES H. DEE, from the St. Nicholas School, Bristol, to be Head Master of the Commercial and Grammar School, Easingwold, Yorkshire.

TO CORRESPONDENTS.

Several Subscribers have sent the Publisher a copy of No. 14 of the Pupil-Teacher, without any intimation as to whom they came from, consequently nothing could be sent to them in exchange. If they will write, the Publisher will cheerfully comply with their request.

SUBSCRIPTIONS RECEIVED TO MARCH 26.

(The Numbers after the name indicate the last No. of the work paid for.)

Downing, 33; Ramsden, 31; Coxhead, 39; Hedgelong, 39; Loynd, 33; Starr, 39; Hendy, 39; Vincent, 33; Knight, 39; Craig, 30; Leslie, 39; Holl, 39; James, 33; Hodsell, 33; Turner, 39; Owens, 33; Boddie, 33; Newton, 39; Corbett, 39; Kay, 39; Bauchope, 39; Foulds, 33; Crookham, 39; Roberts, 33; Moxon, 33; Sheppard, 36; Hubbard, 33; Rodger, 33; Lake, 33; Marsden, 33; Ja. Johnson, 39; Dick, 39; Hoyland, 30; Price, 39; Bunc, 33; Cole, 33; Newey, 30; Ivy, 33; Carter, 33; Jones (Bethel), 39; Chandler, 33; Clark, 33; Young, 39; Jones, W., 39; Sparshott, 39; Reader, 33; Haig, 36; Feruley, 33; Lewis, 36; Tolley, 36; Thackray, 36; Heberston, 36; Prinsep, 42; Hitchcock, 36; Milne, 33; Gibson, 34; W. Hughes, 39; Bagshaw, 36; Macnamara, 36.

Notices of Books.

MONTHLIES.

[For Price and other particulars see *February* number (vol. iii.) pp. 44, 45. We find it necessary, in consequence of our limited space, to modify our plan, and merely to notice the most remarkable features in each.]

1. *Recreative Science*, No. 8.—Those who delight in biography will be gratified by the perusal of "Audubon the Ornithologist," by HAIN FRISWELL. "Wayside Weeds and their Teachings, in Six Handfuls," by Dr. SPENCER THOMSON, is half done, but well done. It is interesting to everybody. Mr. W. B. TEGETMEIER supplies a clever paper on the "Anatomy of a Cube."

2. *The Family Treasury of Sunday Reading* (March).—The biographical department contains an admirably-written account of Bishop Wilson (Calcutta), from materials supplied by his Son-in-law. (2 vols. Murray.)

3. *The Penny Post*.—"The Search for Sir John Franklin" is epitomised from McClintock's "Voyage of the Fox" (London, Murray, 1859: 16s.) This paper alone is surely worth the penny!

4. *Old Jonathan*, No. 47.—This will be found to be a particularly useful number for a lesson on newspapers. The splendid wood-engraving of Messrs. Smith and Son's Newspaper Establishment is large enough to be exhibited on a black board. (London: Collingridge, 117 to 119, Aldersgate Street.)

5. *The English Journal of Education*, No. 159, N.S.—This patriarch of educational periodicals has one peculiarity which we have not yet noticed in these pages—it gives each month a "Literary Necrological Record" for the current month (something after the manner in which the Lists of Battles are given in the *Pupil Teacher*). In a tabulated form are the names of those who are now with the great majority, but who live in the annals of literature, science, and art; the day and year of their death are given, and also a brief note of their chief claim to celebrity. We have never met with anything of the kind before. We believe that the series will be followed by one on celebrated Statesmen, Sovereigns, Generals, Admirals, &c. These "Records" will be a useful and welcome addition to popular literature.

The School and the Teacher, No. 26, N.S.—This number opens with "Biography as a means of Teaching and Training," which we think will be read with as much interest as it evoked when read before the "United Association of Schoolmasters."

The National Society's Monthly Paper. No. 160.—This number contains the Society's petitions relative to the Endowed Schools Bill. The "Extract from a Lecture to First-year Students" is very well in its way. If it had been sent to us by a "first-year" Pupil-teacher as a "specimen," we should pronounce it "fair," and recommend him to "try again."

The Physical Geography of the Sea. By M. F. MAURY, L.L.D., U.S.N., Superintendent of the National Observatory, Washington. London: T. Nelson and Sons, Cloth, 8vo, pp. 493, and 13 (folded) plates. Price 5s.

This is a splendid volume on a most interesting subject, and published at a price almost incredibly low. It is the book of the subject on which it treats. It is divided into twenty-one chapters, headed respectively, The Gulf Stream; Influence of the Gulf Stream upon Climates; The Atmosphere; Land and Sea Breezes; Red Fogs and Sea Dust; On the probable Relation between Magnetism and the Circulation of the Atmosphere; Currents of the Sea; The open Sea in the Arctic Ocean; The Salts of the Sea; The Equatorial Cloud-Ring; On the Geological Agency of the Winds; The Depths of the Ocean: The Basin of the Atlantic; The Winds; Climates of the Ocean; The Drift of the Sea; Storms; Routes; A Last Word; Force of the Trade-Winds of the Southern Hemisphere; Peculiarities in its Atmospheric Circulation; The Submarine Telegraph of the Atlantic.

A School and College History of England. By J. C. CURTIS, B.A., Vice-Principal and Lecturer on History at the Training College, Borough Road. London: Simpkin, Marshall, and Co. Crown 8vo, pp. 528. Price 5s. 6d.

Most of the School Histories of England in common use were compiled before the Pupil-teacher system was established, or, at all events, before its organisation was complete. Many of them were mere trade speculations: they were compiled and published more for the pecuniary profit of the authors and booksellers than for the good of pupils. Some of them show a strong denominational or party bias, which, if not distasteful to, is certainly not desirable for, young Teachers in this enlightened age.

To say that Mr. Curtis's History is entirely free from bias would be perhaps saying too much in its favour; but in justice it must be admitted, that it is as free from party or denominational leanings as any School History, or, in fact, any History, can be expected to be. This is, after all, but a negative merit. It is to the positive merits of the work that we would call attention. Mr. Curtis is a practical man; he knows what is required of Pupil-teachers and students in training, and he supplies it.

The prominence which Mr. Curtis gives to the constitutional history of the country renders his work one of peculiar interest and utility to Pupil-teachers.

EXAMINATION OF CANDIDATES FOR QUEEN'S SCHOLARSHIPS.—
CHRISTMAS, 1859.

(Continued from page 69.)

GEOGRAPHY.

Three hours allowed for this Paper.

1. Draw a map of your own county; and give an account of its industry, population, principal towns, and chief natural features.
2. Describe the mountain system of Great Britain, and mention the situation and height of its principal elevations. *Illustrate your answer by a map.*
3. Describe the river system of Great Britain.
4. Give a geographical account of *coffee, sugar, cotton, currants, pepper, salt, wine, tobacco, gold, oil, opium, ivory.*
5. Write a short account of Hindostan, its most striking natural features, varieties of climate, political divisions, and productions.
6. Assign to each of the following names its proper geographical description and locality:—*Caithness, Sunderland, Guernsey, Milford Haven, Galway, Nova Scotia, Oporto, Jamaica, Algiers, Malta, Etna, Suez, Madras, Borneo, New Zealand, Cape Horn.*
7. Why do the days grow longer from January to June, and shorter from June to January?
8. Give a short account of the chief races of mankind, and of their geographical distribution.
9. Define each of the following geographical terms, and name as many examples of each as you can:—*cataract, gulf, strait, estuary, table-land, isthmus, volcano, swamp, oasis, basin, watershed, prairie.*
10. Trace the course of a ship in two of the following voyages:—
 - (a) From Glasgow to London.
 - (b) From Hull to Hamburg.
 - (c) From Hamburg to Dantzic.
 - (d) From New York to California.
 - (e) From Southampton to Alexandria.
 - (f) From Calcutta to St. Helena.

HISTORY.

1. Enumerate the sovereigns who reigned in England during the twelfth, thirteenth, and fourteenth centuries; and give the date of the accession of each.

2. Mention all the kings and princes of England who took part in the Crusades. Describe briefly their exploits, and the results of their expeditions, as affecting either themselves or their country.

3. In what reign, and under what circumstances, was Ireland brought under subjection to the Crown of England? How was Ireland governed from that time until the completion of its Legislative Union with England? Give the date of that Union.

4. Write out from British history any narrative which you think would interest children (8—10 years old) on one of the following points:—

- (a) Courageous perseverance under difficulties.
- (b) Readiness to suffer on the side believed to be right.
- (c) Adventurous daring in the service of the country.
- (d) Uncertainty of fortune.
- (e) The blessings which we enjoy (*by contrast of past times*.)

5. State fully the causes which you consider to have led to the progress of manufactures in Great Britain. Give the history of some one of our staple manufactures.

N.B. The following Questions may be taken by Candidates in Scotland, in place of those marked 1, 2, and 3.

1. Give the succession of Scottish sovereigns from Alexander III. to James VI., with the date of the accession of each.

2. State precisely the respective claims of John Balliol and Robert Bruce to the throne of Scotland, and give a short account of the events which ended in the establishment of Bruce upon the throne.

4. State the circumstances which led to the establishment of "The Solemn League and Covenant." Describe the career of "Montrose," giving as many names of persons and places connected with him as you can recollect.

Recreative Exercises.

* * * The Proposer is, in each case, required to forward to the Editor the Answer in detail, with the Exercise.

VI.—1. If 46 be taken away from a certain number, and the remainder divided by 50, the product will equal the $\frac{7}{8}$ of $\frac{360}{4}$. What is the number?

2. Find a number, such that if 925 be added to its double the sum will equal eleven times its fifth.

3. The $\frac{1}{2}$, $\frac{3}{4}$, and $\frac{1}{5}$ of a certain number added together make 6,452. What is the number?

4. Find a number the half of which shall exceed its sixteenth part by 2,303.

The answers of the above placed in the form of addition will form a square in which every column of numbers, whether vertical, horizontal, or from corner to corner, will amount to the same sum.

CHARLES F. REDMAN.

VII.—From the fifth of 800 take away just three score:—

$\frac{13}{5}$ of $\frac{8}{9}$ divided by 4;

Two fives and six twos, minus 8 and 3 threes.

From 3 and $\frac{6}{9}$ take $\frac{3}{5}$, if you please,

And divide 5 forties by 4.

If you join all the numbers you'll learn what you should be

When approaching a person you happen to see!

ALPHONSO.

VIII.—The initials of the answers to the following questions will give the name of an ancient country in Europe.

The finals will give its chief town.

1. A town in Switzerland which for some time was the residence of Calvin.

2. A seaport town in the west of France, containing a naval dockyard.

3. A distinguished town and county in Scotland, containing a university.

4. One of the five central lakes of North America.
5. A fortified town of Denmark, at which a battle was fought in the year 1801.
6. The name of a town of Asia Minor, mentioned in the Acts of the Apostles and visited by St. Paul.

MICHAEL MILLER.

ANSWERS.

IV. (p. 77):—

1. Saul (1 Sam. ix. 16).
2. Achan (Josh. vii. 24—26).
3. Manoah (Judges xiii.).
4. Uriah (2 Sam. xi. 14—17).
5. Elah (1 Kings xvi. 8—12).
6. Lydia (Acts xvi. 14, 15).

Geo. Mansell, R. W. Eden, L. C. B., Arthur Parkinson, Sybella M., Mars, A. A. Stuart, H. H. Hughes, James Lightfoot, R. Fishenden, and the following, *who answer correctly the fifth also*:—

Thos. L. Simpson, W. S., James Gill, John Davies, Fred. G. Painter, Clio, Black Robin, Oxoniensis, W. McCord, Benedict, Abram Sturrock, Quentin, James Fenton, W. F. D., Cantor, Dorcas, Ann Collinge, W. Bowers, Aaron Smith, One-and-All, S. T., Urban, Albert Edward Freeman, Emma. Many others *nearly* correct.

V. (p. 77):—

1. SerpentT (Gen. iii. 1 and 14).
2. Elisheba (Lev. x. 1, 2).
3. RechaB (Jer. xxv.).
4. PhaltI (1 Sam. xxv. 44).
5. EucharisT (St. Luke, xxii. 7—21).
6. NehemiaH (Neh. i. 1, 2, and 5).
7. Thessalonica (1 Thess. i.).

The *initials* form the word *serpent*, “a common emblem of sin, as being the medium of its entrance into this world; and (with its extremities joined) of eternity, as being without end.”—*SAPERE AUDE*. [This young lady is the only one of our correspondents who points out how the serpentis an emblem of eternity. Ed.]

The *finals* give the name of Tabitha—all.

H. H. Hughes. (*See Answers to V.*), and many others *nearly* correct.

LORD CANNING.—In this and subsequent conversation that evening on the subject of the mutinies, the causes of them, the extent of the atrocities perpetrated by the Sepoys, the stories of mutilations and outrage, the Governor-General evinced a remarkable analytical power, an ability of investigation, a habit of appreciating and weighing evidence, a spirit of justice and moderation, and a judicial turn of mind which made a deep impression upon me. His opinions once formed seem *inébranlables*; and his mode of investigation, abhorrent from all intuitive impulses, and dreading, above all things, quick decision, is to pursue the forms of the strictest analysis, to pick up every little thorn on the path, to weigh it, to consider it, and then to cast it aside or to pile it with its fellows; to go from stone to stone, strike them and sound them, and at last, on the highest point of the road, to fix a sort of granite pedestal, declaring that the height is so-and-so, and the view so-and-so—so firm and strong that all the storm and tempest of the world may beat against it and find it immovable. But man's life is not equal to the execution of many tasks like these: such obelisks, so made and founded, though durable, cannot be numerous.—*Russell's Diary in India.*

Notes to Correspondents.

All Communications for the Editor should be addressed "The Editor of the Pupil-Teacher, 54, Paternoster Row, London, E.C."

METHOD OF ASKING OR ANSWERING QUESTIONS.—Our numerous correspondents would save us an immense amount of labour, and be less liable to disappointment from their communications not being promptly attended to, by attention to the following points:—

1. Write *only* on *one side* of the paper.
2. Keep each subject distinct from others.
3. *Head* each subject thus:—"Editor's Council," "Notes and Queries," "Editor's Questions," &c. &c.
4. Leave a space at the top and at the bottom of the paper.
5. Write your (real or assumed) name on each separate paper.
6. Always let your communications be accompanied by your name and address. For *publication* you may adopt any signature you please.

ASSUMED NAMES AND SIGNATURES.

The following are appropriated to contributors who have favoured us with their real names, addresses, &c.:—

A Briton	Domingo	Lisa	Salvator Rosa
Abercrombie	Douro	Lowick	Sapere Aude
Aquabiller	Educo	Lucilla	Scio
Alpha	Elève	M. A. M.	Semaj Slig
Alphonso	Emma	Maria	Signum
Amelia	Essayez	Mars	Silex
Anglo-Saxon	El tio-Tomas	Micros	Snowdrop
Anglus	Excelsior	Mira	Sobriquet
Arthenice	Farguharson	Nicholas	Spy
A. T. H. S.	F. E. B.	Nil Desperandum	S. T.
Barrownook	Fergus	Omi	Taceo
B. B.	Friar Tuck	One-and-all	Timid One
Benedict	Gonzalva	Otho	Trainer
Beverlac	Hannibal	Oxonienis	Trigon
Bick	H. D.	Pen	Tristis
Blenheim	H. M. S.	Perseverance	Troisième
Black Robin	H. P. S.	Pestalozzi	T. H. M.
Brutus	Ichabod	Philomathes	Unknown
Cambria	Ich Dien	Prince Charlie	Unus
Cantor	J. C.	Puer Timidus	Urban
Clio	Joannes	Quentin	Vaccine
Cornwellonian	Josephus	Robin Hood	Welsh Mountaineer
Curl	Kenneth	R. N. R.	W. G. W.
Cymro	Last Rose	Rose Villa	Zed
D. A. D.	Leon da Vinci	Sallie	Zenobia

We shall feel obliged by omissions and errors being pointed out to us; if possible *before* the 14th of the month. *Short* signatures are best.

Thanks (for Contributions, Answers, kind Letters, &c.)—David Davidson; Joanna Swanson; Robin Hood; Homo; James Ryder; Ebenezer Turner; Henry Harris; Semaj Slig; Alphonso; H. H. Hughes; Wm. Shaw; James Gill; C. F. Redman; Joseph H.; Arthur Parkinson; John Davies; W. Bowers; R. G.; Sybella M.; W. T.; Mary F.; J. N. Hobbs; Brutus; S. Edwards; One-and-All; T. L. Simpson; Aaron Smith; Briton; F. G. Painter; A. A. Stuart; Y. T. S.; Albert Edward Freeman; A. J. P.; B. B.; James Lightfoot; Oxoniensis; Quentin; R. Fishenden; Sapere Aude; Elizabeth Rees; W. F. D.; W. McCord; James Fenton; E. J. Paul; R. W. Eden; Mars (Hull); Black Robin; Perseverance; Ann Collinge; John Smith (Mt. P.); Clio; Pestalozzi; Emma; Taceo; Abram Sturrock; J. H. Smart; Michael Miller; G. M. Sharp; L. C. B.; Magister; T. F.; Hermes; S. T.; W. G. W., and others.

Received.—Q. V.; J. Smart; X. Y. Z.; A Pupil Teacher; Agricola; Mars; J. P. S.; W. H. R.; Semaj; Trust and Try; R. D.; W. Wilkinson; W. B.; Cantor; *A Constant Reader*; D. B.; and many others.

ANSWERS TO CORRESPONDENTS.

Scholars' Associations (Cornwellonian).—We regret that your letter must be kept back this month. We hope to find room for it in our next.

Questions set to Pupil-teachers at the end of each year of their Apprenticeship (Cure).—Many thanks for your kind offer, which we gladly accept. We have no doubt that many other correspondents will follow so good an example.

Confirmation (H. B. B.).—No hindrance to you.

New Subscriber (Lucilla).—We welcome you cordially. Pleased as we are to hear of new subscribers, we are still more gratified when they are contributors also.

Your papers are very creditable; let us hear from you regularly.—“Webster?” No.

Editor's Council (Lucilla).—We particularly wish masters, mistresses, managers, and parents of Pupil-teachers to take part in the Council. Locality immaterial.

Invitation (T. H. M.).—In our next, if we can.

Apprenticeship (R. B. Dell).—Yours appears to us an extraordinary case. Having served “a certain number of years” under such circumstances, it seems almost ludicrous to raise a question about the three months. See, or ascertain the date of the indenture (which, by the way, must be a model of its kind); that ought to decide the point.

“Pigheadedness and Irascibility” (H. N.).—We deeply regret that your Pupil-teacher should have made so improper a use of the quotation; his remark was most impertinent. Cases of blameable conduct on the part of Masters and Mistresses towards their Pupil-teachers are comparatively few. It will not be doubted that no individual has so many direct communications from Pupil teachers as ourselves; and if, occasionally, we express ourselves rather strongly on the petty tyranny of some, we might refer to letters before us to ask, “Is there not a cause?” Had we received but one more complaint of the kind we should have published your letter. We trust that you will regard the matter as merely a personal question. No doubt you pointed out to your Pupil-teacher his inpropriety. More we cannot do; and we should be sorry if our influence over him were superior to yours.

Writing (X. Y. Z.).—Very good indeed; but what a contrast your letter affords! It reminds us of the many ungrammatically worded letters we receive inclosing creditable specimens of syntactical parsing. (F. P.)—We congratulate you on your improvement, and we assure you that it affords us real pleasure to find that our advice has been so serviceable to you. (W. W., Tipton.)—No gentleman or man of business would write a letter on machine-ruled paper. The form of yours, especially towards the end, is bad. Your capitals look as if they had tried to take lessons in writing from Nature, by imitating the curly tails of little pigs. (T. L. S.)—Stiff and formal, but greatly improved within the last few months. (Trust and Try.)—The chief defect is in the formation of your capitals. We recommend you to write your small-hand larger, for the present at all events. We may here remark, generally, that it is advisable for all pupils to write their exercises, notes, &c., in a good bold hand, that the distinct formation of each character may be seen. (J. F.)—We have not seen your calligraphy (is that the name of your dog?) Calligraphy means beautiful writing. Your writing, although not beautiful, is passable. Your progress is very creditable to you. We perceive an improvement each month. (Trams).—Disjointed. (P. Q.)—Would disgrace a Ragged School.

Doctor of Medicine (X. Y. Z.).—Be diligent in prosecuting your prescribed studies as a Pupil-teacher. With the exception of Method, and perhaps Church History and Liturgy, there is nothing to which you should now give your attention which you will not require, or, at the least, find serviceable, then.

Errata (S. L.).—Thanks. Those printers! All right now.

War Office Clerkship (Mars).—If your other qualifications were on a par with your handwriting, you might safely present yourself for examination. You ask our advice on a very important point. We advise you not to give up a certainty for a mere probability. Be sure of the one before you quit the other. A word to the wise will suffice.

Civil Service (J. P. Shields).—We fear that without *interest* your qualifications will prove of but little avail. There are many who can command sufficient interest, but who cannot pass the examination. Write to the Editor of the *Civil Service Gazette*.

The Ass (J. H.).—Very good for a "first attempt." You may see it in print before you are much older.

Dorking (Anglo Saxon).—Your letter, but none of the contributions mentioned in it, reached us. We regret this, and will certainly not publish anything on the subject on which you seem to have taken so much pains till we have the pleasure to hear from you.

Liturgical Text Books (Snowdrop).—We prefer putting your questions to our contributors. You will readily perceive the reason why.

"Notes" and "Sketch" (*Snowdrop*).—See the "Lesson on Mountains," by our esteemed correspondent, *Brutus*.

A Candidate (Trust and Try).—Your letter interests us in your case, and we will very gladly do all in our power to assist you. Give what attention you can to our "Notes and Queries" and "Exercises." We will reply to your first six queries *seriatim* in our next, if not in this number.

Text Books (Perseverance).—The first two paragraphs of the preceding answer apply equally to your case. Let us know what books you have. As a rule, we recommend our friends to get as many different text-books and books of reference as they can; but in such cases as yours we say, spend as little as possible, but be "doubly diligent."

Geography of the Ocean (G. M. Sharp).—Maury's "Physical Geography of the Sea," Nelson and Sons, price 5s. We know of no better book on the subject, and a cheaper one of the size cannot be expected.

Government Situation (A Constant Reader).—There certainly can be objection, and most probably would be, if the student were a promising one. In the case of a Queen's Scholar, we should consider objection reasonable. The Principal of the College cannot be regarded as an employer. Still, no doubt his testimonial would be required in addition to the other.

THE AUSTRALIAN COPPER MINES.—If in respect to its gold South Australia can show no returns, she possesses other mineral resources of a not less important and reliable character. The Burra-Burra copper mines deserve to be called gold diggings, and the history of mining adventure can furnish no parallel to the extraordinary richness and profitable character of those mines. In a late number of the *Adelaide Advertiser* we find the following remarks upon the prospects of the colony in regard to its mineral wealth:—"The mineral resources of the colony become every day more hopeful. Hundreds of miles in the northern districts abound in copper of great purity—in fact, it only requires the proper adjustment of capital to labour, and the application of both in due proportion, in this colony, to result in the opening of half-a-dozen Burra-Burras. Our copper mines are practically exhaustless; were our population increased tenfold, and were capital supplied in proportion, all might find remunerative occupation in raising the vast accumulations of copper which nature, with lavish hand, has buried beneath the soil in almost every part of this land."—*Australian Gazette*.

PRAYER is a retirement from earth to attend on God, and hold communion with Him that dwells in heaven. The things of the world, therefore, must be commanded to stand by for a season, and to abide at the foot of the mount, while we walk up higher to offer.—*Watts*.

THE PUPIL-TEACHER.

PUPIL-TEACHERS' STUDIES.

BY SIX CONTRIBUTORS.

J. W. C. (1); Richard Knight (2); Tnatsnoc (3); Isabella Lever (4);
Dafydd (5); Robin Hood (6).

IN nothing have greater advances been made than in education, both with regard to the subjects taught and the means employed to teach them. Thirty or forty years ago, as has often been remarked, the Schoolmaster, who, in his influence on the character and pursuits of the mass of mankind, ranks second only to the mother, was thought so lightly of, that any bodily infirmity which disabled him from pursuing a trade was sufficient, without any reference to the calibre of his mind, to qualify a man for the office and duties of an instructor of youth. Now, however, it is different; those who aspire to the honourable calling of Schoolmaster must go through a course of previous instruction and training to fit them for it.

Let us now take a peep at the Pupil-teacher as he sits at his desk, apart from the noise and bustle of the rest of the house. He is an object of great interest to all thinking people, as he sits there endeavouring to fit himself for the great work he has undertaken; for they behold in him the embryo Schoolmaster, to whom will be committed, in a few years, the sacred charge of moulding the minds and dispositions of their children. He is, perhaps, engaged in studying the Bible, filling his mind with its Divine precepts, and its examples of holiness and also of wickedness, gleanng, at the same time, all the collateral knowledge necessary for the proper understanding of the text, that he may be the better able, when called upon, to convey a full idea of its import to his pupils. Or he may be gathering facts and principles of Geography, in order to give them accurate views concerning the earth on which they live, and its relation to themselves,—explanations of the various phenomena passing daily before them, and a clear comprehension of the position in which their own country stands with respect to others; and to be able, from these facts, to lead them “from Nature up to Nature’s God,” and to convince them that the over-ruling hand of Providence is visible in all His works. Again, he may be investigating the principles of Grammar, that he may teach his pupils to express themselves correctly; or exercising himself in Composition, in order to gain a mastery over language, and be able to convey his ideas fluently and clearly to his scholars. Or he is, perhaps, invigorating his mind by the study of Mathematics, exercising his ingenuity in the solution of difficult problems, and examining the best methods of teaching the subject to the young—and all this with a view to initiate his pupils into the most natural and expeditious ways of performing any

mathematical operations they may have to do in the daily routine of life. But, knowing that the greater variety of subjects his studies embrace, the better will he be able to fulfil his office, he does not confine himself to simply elementary subjects. You may sometimes see him reading works of light literature—such as poems, good works of fiction, &c., gaining thereby enlarged views of human nature, and learning, from actions, to decipher the motives that prompted them. This is, perhaps, to him the most valuable of all knowledge, and will aid him materially in the government of his school. (1.)

It often happens that the subjects in which he receives instruction are limited to the subjects required at his yearly examination; yet it frequently occurs that, in the course of a reading or any other lesson, questions may be put to him relating to other branches of knowledge, and in answering which he will have to depend on the knowledge he has gained by private study. There is another motive, too, which one would think would be of itself sufficient to induce a Pupil-teacher to study—that of self-interest; for, without study—deep, earnest, vigorous study—he can never expect to rise in the profession which he has chosen. He will undoubtedly, in the course of his studies, meet with many difficulties; but if possessed of any courage, he will not be daunted by any obstacles, especially when he knows that, by making his difficulties known through the medium of *The Pupil-Teacher*, he is almost sure to obtain the assistance which he requires. (2.)

The studies of a Pupil-teacher should not be wholly confined to the subjects appointed on the broad-sheet. Let him make choice of some other subject, as for instance, a language, or a science; but in doing this he should consider, *first*, what time must I allot, without neglecting my other studies, to prosecute this? and, *secondly*, will it be of any use to me in my after life? If the study of anything is commenced, it should be continued perseveringly; if possible, a day should never pass without a line, and then success must follow. (3.)

Students in general would then find it an excellent plan to make out a routine of each day's work, and never fail to carry out the rules laid down in it; it should be reviewed at night before retiring to rest, and whatever part has been neglected should be well weighed over in our own mind, and see if it were possible for us to have done it: but this should always be made a matter of conscience. (4.)

The sublime imagery employed in the sacred volume, and in the writings of uninspired authors, to represent the shortness and uncertainty of life, are too well known to need repetition here. All our hopes of prosperity and happiness, both temporal and eternal, entirely depend upon the use we make of the *now* of life. This is the bond that binds the past and future together; it is that link in the chain of man's existence upon which his eternal destiny hangs. For what is life, but one continual *now*, ever moving onward with us, yet gone for ever! We cannot recall the past; the future is shrouded with a veil of mystery. Therefore *now* is the time for action with us. (5.)

Let us bear in mind that we are now preparing to enter upon an important and responsible office—that of instructors to the children of one of

the most civilized nations in the world. The future literary attainments of our country as a nation may very probably greatly depend upon us. Perhaps many a child hereafter, educated at our schools, may become important as a literary character, and, by his acquirements, immortalize his name to his own and succeeding generations. Shall we, then, who are to be instructors—educators, probably, of the *twentieth* century—teachers of *Britain's* future sons and daughters—shall we not fit ourselves for the office, and seek to make our country the most educated in the world? (6.)

NOTES OF LESSON ON GIBRALTAR.

Position.—In the extreme south of Spain; a small promontory, about $2\frac{3}{4}$ miles in length, and $\frac{3}{4}$ in breadth. Its latitude is $36^{\circ} 8'$ north, and its longitude $5^{\circ} 21'$ west. The rock on the north side is perpendicular, and nearly so on the east and south; rather sloping on the west. Gibraltar has not an excellent harbour, but is important as a military station of Great Britain.

History.—Gibraltar was known to the ancients as Mount Calpe, and formed, with Mount Abyla on the African side, the pillars of Hercules. It was visited by the Phenicians and Carthaginians, and was occupied as a station by the Romans; afterwards used as a military post by the Saracens, who erected a fortress in A.D. 712. They called it Gebel Torif, after their chief. Time has corrupted Gebel Torif into Gibraltar.

From 712 down to 1462, Gibraltar remained in the possession of the Moors of Barbary. In 1462 it was taken by the Spaniards; and, on its being surprised and pillaged in 1540 by an inconsiderable body of Moors, it was rebuilt and freshly fortified, on the most approved principles of the day.

After remaining in the hands of the Spaniards 242 years, it was captured by an English fleet under Admiral Rooke, July 21st, 1704. About three months after an army of French and Spaniards besieged it; and so determined were they in their plans, that 500 volunteers pledged themselves to capture Gibraltar or perish. The attempt was unsuccessful, and the siege was reduced to a blockade. Finally, the place was made over to the English at the peace of 1713. In 1727 another attempt was made to seize it, ending in a siege, which cost the assailants 3,000 lives, and the garrison 300.

In 1779 the last attempt was made by the Spaniards to get possession of Gibraltar. The siege lasted three years and seven months. The governor of the place was General Elliott; the commander of the Spanish forces, Duke de Crillon. Twice provisions failed, and the garrison were reduced to the utmost straits; even dandelions and nettles were sought after as luxuries. At last, Elliott determined to use red-hot shot; and so destructive were these projectiles, that in a few hours he had blown up most of the enemies' floating batteries, and fired many of their ships. Shortly after the siege was raised, and peace was concluded.

Since 1783, neither the Spaniards nor any other nation have molested the English in the possession of Gibraltar.

Importance.—(a) As a military and naval station to Great Britain, being the strongest fortress in the world. (b) In a commercial point of view, as a protection to English commerce in the Mediterranean Sea.

ROBERT WAITE, Pupil-teacher, third year.

PERSPECTIVE SIMPLIFIED,
FOR PUPIL-TEACHERS AND OTHERS PREPARING FOR THE
GOVERNMENT EXAMINATIONS.

BY R. H. TURNER, HEAD MASTER OF THE CRANMER SCHOOLS, LIVERPOOL.

INTRODUCTORY LESSON.

THE practice of perspective by many has been considered difficult and perplexing. Many have commenced to study the subject, and before long have given the matter up as dry and uninteresting. And no wonder that they have done so, when the methods adopted in all the works we had on the subject but a few years ago were so various and ill-defined. The method, however, now to be used, is not so indefinite. In the Government Papers we find a certain method adopted which it will be our business to explain and illustrate in the following lessons, in as simple and ready a manner as possible; so plain, it is hoped, that the youngest student will find but little difficulty. The writer knows full well how needful it is that in commencing a new subject of study every step should be made plain, and the advance gradual.

The following Lessons are intended to prepare you for the Government examination. Be patient and careful—work out every problem—never skip a difficulty, but overcome it,—and we have little doubt of your success. You will need the following instruments:—

1. A drawing-board, which must be accurately true in the square.
2. A T square, which must also be true.
3. A straight-edge.
4. A set-square.
5. A pair of compasses, with pencil leg.
6. A protractor, or boxwood scale.
7. An HB drawing-pencil.
8. A sheet of common drawing-paper.
9. And brass pins to secure your drawing-paper to the board.

We will now proceed to the study of our subject. When we make a drawing of any object, we represent on our own paper all the lines of the object that we can see. If our paper were transparent, and we place it between ourselves and the object we are about to draw, and then trace the lines of the object on the paper, we should have an exact drawing of the object. This would be a true *perspective* drawing. And so all drawings taken from objects in nature may be called *perspective drawings*. But this term is usually applied to those drawings only which are made by the use of the means and methods adopted in perspective drawing. To understand, then, the first principles of Perspective, let us first notice the general appearance of the lines of objects as we see them in nature.

The Horizon.—Go into the open field, and stand where you have an unobstructed view. The line which is the boundary of your view is the horizon. Now stand in the middle of a street: your view is limited by the houses, and other objects around you. If these were all removed, and *your view unobstructed* by any object, again you would see the horizon.

Although you cannot see any part of the horizon when you are in the street because of the objects that intervene between it and your eye, still the horizon is there.

The Position of the Horizon.—Stand, again, where you can see some portion of the horizon, and notice its *position* with respect to your eye. It appears neither above nor below your eye; that is, it is exactly opposite to your eye.

The Line of Direction.—Now imagine a line drawn from your eye to the horizon. It is evident that such a line will be at right-angles with your erect position, and also at right-angles to the horizon. This imaginary line is called the *Line of Direction*.

The first Lines of Construction.—Now we are ready to make a commencement with the drawing-paper. Secure your paper to your board by means of the pins; then rule lines thereon with your T square, as in the following diagram, at one end of your paper.

1, 2, 3, 4, Fig. 1, represents your drawing-paper secured to your board.

The line *HL* represents the horizon, and is called the *Horizontal Line*.

The point *s* is the position, or station of the sketcher, and is called the *Station Point*.

The line *SP*, *PS*, the *Line of Direction*.

The point *PS*, the point where the Line of Direction is supposed to intersect the horizon, and is called the *Point of Sight*.

The line *BL* represents the bottom, or base line of your picture, which is supposed to be on a level with the base line of the object you wish to represent.

For instance, suppose that you were about to make an accurate tracing of an open box, which had been placed at one end of a desk or table, and you stood at the opposite end with a sheet of glass for your picture, standing erect on the table, the bottom line of the picture or glass which touches the table is what *BL* represents, and it is called the *Base Line*. If the object to be represented does, or is supposed to rest on the ground, the picture is also supposed to rest on the ground; and the Base Line represents the line of the picture, or of the ground upon which the picture rests. You will have need constantly to remember the supposition that your picture is a transparent plane, and that the figures you sketch are the representations of objects *seen through* your picture. The word *perspective* means, *seen through*.

Be careful that you draw the Line of Direction at right-angles to the Horizontal Line. But how far must I place the Base Line below the Horizontal Line? Not an unimportant question. It will be regulated, of course, by the real or supposed distance of the object to be drawn below the eye, and the scale to be adopted in the drawing. If you were about



Fig. 1.

to make a perspective drawing of a large square box, standing on the floor, you would need to adopt a small scale—say half an inch to a foot. Then the distance between the Base Line and the Horizontal Line will represent the distance from the floor to your eye. If you suppose yourself to be standing on the floor, then, reckoning five feet the height of your eye, you would rule your Base Line two and a half inches from your Horizontal Line. If the box were smaller, you would require your drawing to be of a larger scale—say an inch or two, or three inches to a foot, according to the size of the box; and consequently the distance between the Base and Horizontal Lines would be increased. Again, the distance between these two lines will also be regulated by the position of the eye. If you suppose yourself to be sitting, the distance from your eye to the floor will be less than when standing; so, the distance of the Horizontal Line from the Base Line must be less. And in like manner, if, instead of having your position on the floor, you take an elevated position, or if the object to be drawn be elevated in position, the distance between the two lines will be affected accordingly. If, however, the object to be drawn be elevated as high as the horizon, or above it—that is, as high or above your eye—the distance of the two lines will not then be affected by the position of the object. In such a case you would take the ground as your base, and the horizon as far from it as your eye is from the ground. The distance usually taken is five or six feet.

PAPER STATISTICS.

THE quantity of paper of all kinds on which duty was paid during the year 1859, was 217,827,197 lb., and the duty paid was 1,429,490*l.* 19*s.* 8*d.* Of this quantity 20,142,350 lb. was exported, while the imports were 214 lb. of brown paper, made of old rope or cordage only, paying a duty of 2*l.* 4*s.* 7*d.*

211,178 square yards of printed, painted, or stained paper-hangings or flock paper, which contributed 2,564*l.* to the revenue.

1,586,249 lb. of waste paper, and paper not otherwise enumerated or charged with duty, on which 9,981*l.* was paid as duty. Of this latter quality of paper 557,444 lb. was re-exported.

240,052 lb. of paper gilt, stained, coloured, or embossed, and all fancy kinds not being paper-hangings, which paid 2,430*l.* to the Custom-house; giving a total of 14,977*l.* received as duty on foreign paper of all kinds.

As compared with the returns of 1834 the total weight of paper, pasteboard, &c., charged with duty in 1859 is nearly trebled, the weight on which duty was paid in 1834 being only 76,138,945 lb., although the amount of duty, in consequence of modifications in the Excise, by no means exhibits a proportionate increase.

There is, however, no cause of complaint on this head, as the increase to the revenue by paper duty, as compared with 1834, is 595,668*l.* 7*s.* 8*d.*

The exports of paper, pasteboard, &c., show a wonderful increase during the period between 1834 and 1859, being in the latter more than four-fifths more than in the former year.

THE PORTS OF EUROPE.

ARRANGED alphabetically by the Editor from the three best papers; F. W. Gretton (1); Hotspur (2); and George Scott (3).

Particulars marked "4" are supplied by the Editor.

Additions and corrections are requested.

Aalborg, Jutland. On the Lym Fiord. Manufactories. *Exp.* corn, herrings, wool, tallow, &c. (4).

Aarhuus, North Jutland. On the Cattogat. Has the largest church in Denmark. *Exp.* herrings, &c. (4).

Aberdeen. Linen, cotton, and woollen goods, oats, barley, cattle, sheep, pigs, butter, eggs, salmon, &c. David II. summoned a council here 1342. (1).

Abo, capital of the (Russian) Baltic province of Finland. On the Aura-jocki. It belonged to Sweden until captured by the Russians in 1808. In 1640 it became the seat of a University, hence the phrase "from Abo to Salamanca," implying every European seat of learning. The University was removed to Helsingfors in 1827. *Exp.* timber, &c. (4).

Ajaccio, capital of Corsica, an island which now belongs to France. Here Napoleon Bonaparte was born, August 15, 1769. *Exp.* olive oil, oranges, chesnuts, timber, &c. (4).

Altona, Holstein, on the Elbe. Terminus of Altona and Kiel Railway (Hamburg). *Exp.* gloves, silks, velvet, and other manufactured goods. (4).

Amsterdam, the capital of Holland. *Ch. exp.* cheese, butter, leather, borax, camphor, sulphur, &c. (2). *Exp.* butter, cheese, oil, dyes, &c. Very great commerce. (1). Linen manufacture and ship-building. Carrying trade. Chief commercial city of 16th century. Haarlem meer formed 1539. Now drained. At Saardam, near Amsterdam, Peter the Great worked, 1697. (3). Built on piles. Birthplace of Episcopus. (4).

Ancona, in Italy. *Ch. exp.* wax, silk, wool, corn. Taken by the French in 1797. Re-taken by the Austrians in 1799. (2). Wool, skins, silk, sail-cloth, tow. Founded 400 B.C. by Syracusan patriots. (4).

Antwerp, on the Scheldt. Ship-building and diamond-cutting. Steam-packets to London. Great trade. Its commerce was nearly ruined by the Dutch, who procured the shutting up of the Scheldt. Taken by Spaniards in 1576 and 1585 with great slaughter, "Spanish fury." The first London Royal Exchange was a model of the Exchange at Antwerp. Magnificent cathedral. Rubens, the painter, died at Antwerp.

Archangel, situated on the shores of the White Sea. This formerly was the chief seaport of Russia, but since St. Petersburg has been built the trade here greatly decreased. *Ch. exp.* timber, tar, pitch, turpentine, flax, hemp, tallow, leather, and potash. (2). *Exp.* wheat, rye, oats, linseed, flax, tow, tallow, train oil, mats, deals, battens, pitch, and tar. First Russian port that traded with England. Passage of Archangel discovered by the English, 1553. (1). Built of wood. *Exp.*

- flax, timber, tallow, and furs. First Russian port that traded with England. (3).
- Astrakhan**, at the mouth of the Volga. Fisheries in the Caspian. (3.) Produce of fisheries, caviar, isinglass. (1).
- Alicante**, south of Valencia. *Exp.* fruits, wine, wool, and barilla. (4).
- Barcelona**, in the north-east of Spain. *Ch. exp.* wine, brandy, nuts. (2). Second city of Spain. *Exp.* iron, copper, cork, fruits, wines. It is said to have been built by Hamilcar. Reduced by Louis XIV. 1714. (3). Iron, copper, fire-arms, cork, fruit, wines, brandy. (1).
- Bayonne**, in the south-west of France. *Ch. exp.* resin, woollen cloth, serges, linens, silks, drugs, and wines. The military weapon called the bayonet takes its name from this city. A Basque regiment, in a fight with the Spaniards near here, found their ammunition exhausted; they then fixed their long knives to their musquet-barrels, and so charged the enemy. This city has been several times besieged, but never taken. (2).
- Belfast**, seat of linen trade of Ireland. *Exp.* linen and provisions. It was made a borough in reign of James I. In 1660 it had five streets. (3). Cotton and linen manufactures, linen yarn, corn, meal, flour, and provisions. One of the first editions of the Bible printed in Ireland was executed here, 1704. (1).
- Bergen**, Norway. *Ch. exp.* timber, tar, pitch. (2.) Entrepot of Norwegian fisheries. *Exp.* dried fish. (3).
- Bilboa**, in the north of Spain. *Ch. exp.* oil, wine, and chesnuts. This place was taken and re-taken in 1808-9, during the Peninsula war. It was also the scene of much fighting during the Carlist insurrections. (2).
- Bordeaux**, on the Gironde. Second port in France. *Exp.* wine, brandy, and fruits. Held by the English from 1152 to 1451. Richard II. born there. Roman remains. (3). In the west of France. *Ch. exp.* wine, brandy, vinegar, plums, raisins, chesnuts, walnuts, timber, turpentine, and cork. Taken by the English in 1132, and kept by them till 1451. Celebrated also as being the birthplace of Edward the Black Prince and his son Richard II. (2). *Exp.* wine, brandy, fruit. United to England by the marriage of Henry II. to Eleanor of Aquitaine. The Black Prince and his son Richard II. was born here. Entered by the English 1814. (1).
- Boulogne**. "Army of England" stationed here in 1804. Burnt by English 1806. (1).
- Bristol**. Glass, earthenware, iron, and coal. Emigration port. Stephen was put in irons here 1141. Henry III. here confirmed Magna Charta. Besieged by Royalists in 1643, and re-taken by Fairfax and Cromwell 1645. Charles II. fled to it in 1651. Great riots in 1831. (1). *Ch. exp.* glass, chain cables, anchors, machinery, British spirits, copper, tin, and brass wares. (2).
- Cadiz**, an island of Leon, once a place of great trade. *Exp.* sherry wine, and salt. Besieged by French in 1812, but they were obliged to raise seige. (3). In the south-west of Spain. *Ch. exp.* wine, salt, oranges, lemons, fruits, oil, wool, quicksilver. Pillaged by Effingham in 1596.

Again attacked by the Duke of Ormond and Sir George Rooke in 1702, but the attack failed. The inhabitants in 1808 took possession of their own ships, which were in the interest of France, and also captured the French fleet. (2.) *Exp.* sherry wine, salt. Howard and Essex took it 1596. Blake took the Spanish galleons off this place, 1656. Lord St. Vincent blockaded it from 1797 to 1799. (1.)

Christiana, capital of Norway. *Exp.* fish, tar, iron, and timber. Built by Christian IV. (3.) In Norway. *Ch. exp.* fish, tar, soap, vitriol, alum, iron, copper, and timber. (2.)

Christiansand, Norway. Timber logs, deals, and lobsters. (2.) Famous iron mines. (4.)

Constantinople, on the Bosphorus, capital of Turkey. Splendid harbour. Considerable foreign trade. *Exp.* silk, carpets, wool, diamonds. Received its name from Constantine the Great. Was often besieged by the Turks. Taken by Mahomet II. 1463. Ambassadors of England and France first arrive 1829. (3.) Silk, carpets, hides, wool, goats' hair, potash. Taken by Crusaders 1204, who kept it till 1261; and by the Turks, 1453. (1.)

Copenhagen, an island of Zealand. Beautiful town. Strongly fortified. Agricultural produce exported, and manufactured goods imported. Defeat of Danish fleet by Lord Nelson 1801. Bombarded by Nelson for three days, Sept. 6, 1807. Sound dues are now abolished. (3.) The capital of Denmark, situated at the entrance of the Baltic. *Ch. exp.* fish, porcelain, flax, and hemp. Bombarded and taken by the English in 1801 under Nelson, and again bombarded in 1807. (2.) Grain, hides, and cattle. Lord Nelson gained a great victory here in 1801. Bombarded by the English 1807, when 18 ships of the line, 15 frigates, 6 brigs, and 25 gun-boats were taken. (1.)

Cork. Fine harbour. *Exp.* great quantities of provisions. Its first charter was granted 1242. Rendezvous for ships (during wars with Napoleon) going to West Indies. (3.) Grain, provisions, butter, and live stock. Perkin Warbeck landed here. Reduced by Marlborough 1690. (1.)

Corunna, in Spain. The place where Sir John Moore defeated the French and lost his life in 1809. (2.)

Cromarty. Salmon, herrings and pork. Birthplace of Hugh Miller. (1.)

Calais, province of Artois, nearest continental port to England. Taken by the English under Edward III., 1347. Recaptured by the French under the Duke of Guise in 1558. (4.)

Dantzic, on the Vistula. Badly built. One of the most important corn ports. *Exp.* also, timber, beer, flax, and hemp. Was one of the Hanse towns. (3.) A seaport of Russia. *Ch. exp.* corn, timber, potash, pearlshell, quills, brandy, spirits, flax, hemp, and wool. (2.) Corn, timber, beer, amber, liqueurs, starch, chickory, &c. (1.)

Drogheda. Corn, meal, flour, cattle, provisions, and linen. Cromwell took it by storm, and put the garrison consisting of 3,000 men to the sword. (1.)

Dublin. *Exp.* linen, cattle, corn, meal, flour, hogs, woollen and cotton goods. Lambert Simnel was crowned here 1487. Cromwell visited it in 1649. (1.) *Ch. exp.* Irish linen, potatoes, pork, butter, eggs. (2.)

Dundee. Linen, black cattle, sheep, and agricultural produce. Besieged, 1645 by the Duke of Montrose, and in 1651 by Monk. Birthplace of Admiral Duncan. (1).

Dunkirk. Wine, brandy, fish, and salt. Given to Cromwell by France in return for assisting that country against Spain. Charles II. sold it to Louis XIV. for £500,000. Bombarded by a British fleet 1694. Unsuccessfully laid siege to by the Duke of York 1793. (1).

Dundalk, county Louth, Ireland. *Exp.* Corn.

Edinburgh. Glass and linen. Its castle surrendered to Henry II. 1174. Taken by English 1296. Cromwell took it 1650. Occupied by Young Pretender 1745. (1).

Elsinore, Zealand. Here the "sound dues" (recently abolished) were paid. (4).

Enos. Wool, camels' hair, cotton, leather, silk, wax, and coffee. (1).

Flensburg, Schlesvig. *Exp.* tiles, for the manufacture of which the town is famous. (4).

Flushing, or Vlissingen, Zealand. Eighty line-of-battle ships could be contained in the largest of the two inland basins. (4).

Frejus, Provence, department of Var. Here Julius Cneins Agricola, the conqueror of Britain, was born. Here Napoleon Bonaparte landed on his return from Egypt, and also on his escape from Elba. (4).

Galatz, on the Danube, near to its junction with the Pruth. It is the only Moldavian port. (4).

Gallipoli. Olive oil, and cotton. (1). This is a Neapolitan port. There is another port of the same name on the Dardanelles (Turkey, in Europe), which *exp.* oil, corn, and wine. (4).

Genoa, Italy. *Ch exp.* olive oil. Noted as being the birthplace of Christopher Columbus. Besieged and taken by the Austrians and English in 1799. Given up to the French after the battle of Marengo. (2). *Exp.* rice, oil, fruit, cheese, &c. English and Austrians took it from the French 1799. (1). Once very famous. *Exp.* olive oil, rice, fruits, silks, velvet. Birthplace of Columbus. Long the capital of a wealthy republic. (3).

Glasgow, on the Clyde. Centre of Scottish foreign trade. Manufactures cotton and iron goods. *Exp.* coal, iron, and cotton goods. In 1226 it was included in the municipal boundaries of Rutherglen. Two miles south of Glasgow is the field of Langside, where Mary Queen of Scots was routed, 1568. (3). Tobacco pipes, flint glass, coal, bleaching powder, dye-stuffs, flax and hemp, manufactured goods, &c. Visited by Cromwell 1650. Plundered by the Pretender 1745. (1).

Gloucester. Salt, iron, coal, and bricks. Athelstan died here 940. Henry III. crowned here 1216. Edward II. buried here. Bishop Hooper burnt, 1555. Besieged by Rupert in 1643, and also by the Parliamentarians. Charles II. demolished the wall around it for the obstinate resistance to Charles I. (1).

Gottenburg, West Gothland, Sweden. Houses built on piles. *Exp.* timber, &c. Many British residents. (4).

Greenock. One of the principal seaports of Scotland. *Ch. exp.* cotton goods, and dried herrings. (2).

Hamburg, at the mouth of the Elbe. Free city. Principal seaport of North Germany. Great depôt for goods. *Exp.* grain, wool, cattle, German manufactures and produce. Founded by Charlemagne. Hanseatic League formed here about 1200. Taken by Danes 1801. (3). The *exp.* of Hamburg are too numerous to mention. Great quantities of every kind of the produce of Germany are exported through Hamburg. Taken by the French in 1806; made independent again at the Peace of Tilsit. Re-occupied by the French, and made part of the French Empire, in 1810. Taken from them by the Russians in 1813. Again taken by the French in the same year, who drove out 40,000 of the inhabitants, to perish, in the depth of winter. The French kept possession of it till the next year, but in 1815 it was restored to its ancient independence. This is one of the Hanse, or free towns (2). Grain, seeds, butter, wool, salt provisions, cattle, bark, spelter, rags, and German manufactured goods. Besieged by William III. 1690, but was forced to raise the siege. (1).

Haarlem, on the Spaaren, Holland. Celebrated organ. Birthplace of Coster, one of the earliest printers. *Exp.* tulip and dahlia bulbs, &c.

Havre, on the Seine. Third port of France. Engaged in the whale fishery. *Exp.* silks, cottons, woollens, and iron-ware (3). **Havre**, or **Havre de Grace**, in the north of France. *Ch. exp.* silk, woollen goods, lace, gloves, trinkets, perfumery, fruits, wine, and brandy. Near here Henry V. landed, just before the battle of Agincourt. In the year 1759 severely bombarded by the English, under Admiral Rodney. (2).

Hull. Hardware, woollen, and cotton goods. The first town that shut its gates to Charles I. 1642. (1).

Konigsburg. Grain, flax, hemp, rapeseed, &c. Owing to the shallowness of the Frische Haff, vessels unload at Pillau. (1). *Ch. exp.* corn, beer, flax, hemp, tallow, wax, and bristles. Taken by the Russians in 1758, and by the French in 1807. It was again taken by the French on their way to invade Russia. (2). On the Pregel. Part of it is an island. It has a university.

Kherson, in the south of Russia. *Ch. exp.* corn, flax, timber, tallow, and hides. (2).

Kostendji, Bulgaria. To this port "goods and passengers are brought overland for that point of the Danube where it makes a sudden turn northwards, steamers preferring to stop there rather than encounter the danger of navigating the stream further down." *Clyde*. (4).

Leghorn. Chief port of Italy. *Exp.* silk, straw hats, oil, and fruits. (3). *Ch. exp.* silk, oil, straw hats, iron, potash, alabaster, coarse woollen cloth, coral, anchovies. (2). Silk, plaited straw, fruit, wine, oil, coal, marble. (1).

Lisbon, on the Tagus. Splendid harbour. Emporium of goods brought from Brazil, &c. Earthquake 1755. 60,000 people perished. (3). *Ch. exp.* wine, fruits, and oil. (2). First port. *Exp.* wine, oil, fruit, and salt. Earthquake 1755. (1).

Liverpool. The foreign commerce of Liverpool exceeds that of London. Trade with United States, Canada, and Ireland. *Exp.* the produce of

- the surrounding counties. Cotton goods, salt, iron goods, and earthenware. *Imp.* cotton. Its population in 1700 was 5,700, when it was a fishing village subordinate to Chester. (3). *Ch. exp.* cotton goods. Many other British manufactures. (2). *Exp.* linen, cutlery of Sheffield, hardware of Birmingham, iron and earthenware of Staffordshire, Yorkshire, and North Wales. Watches and watch movements in large quantities. Emigration port. Besieged by Prince Rupert 1644. The Liverpool and Manchester railway was the first in England. (1).
- London**, at the mouth of Thames. Largest and richest city in the world. Its enormous coasting trade renders it the first port in the world for number of ships and tonnage. Chief trade to East Indies and China. *Imp.* provisions, coal, tea, sugar, silk, coffee, &c. *Exp.* articles of every description. Historical men. First charter granted 1208. Great plague of London 1665. Great fire of London 1666. (3). The capital of England. One of the most extensive places of commerce in the world. *Exp.* all kinds of British manufactures. Sacked by the Britons under Boadicea. Nearly the whole of it burnt down in 1666. (2). Chiefly manufactured goods, and a large quantity of foreign goods are re-exported. Taken by Danes 851. Plagues in 1348 and 1665. Burnt 1666. The Great Exhibition opened 1851. (1).
- Londonderry**. Linen and linen yarn, eggs, butter, wheat, oats, and oatmeal. Besieged by James II. in 1689, but the inhabitants bravely defended it, under the direction of the Rev. George Walker. (1).
- Malaga**. Another seaport belonging to Spain. *Ch. exp.* wine, grapes, raisins, figs, oranges, lemons, almonds, brandy, oil, saffron, vermicelli, barilla and soap. *His. Mem.*: This port has been occupied at different times by the *Carthaginians*, Romans, Goths, and Arabs, or Moors. From them it was taken by Ferdinand and Isabella in 1487. (2).
- Marseilles**. First port in France. Trade has greatly increased since the French held Algiers. *Exp.* wine, silks, &c. Founded by a colony of Greeks 600 B.C. (3). In the south of France. *Ch. exp.* wine, brandy, corn, dried fruits, oil, soap, hosiery, damask, linen, woollen goods, silk, hides, leather, prepared anchovies. (2). Great trade to Algiers. Wine, brandy, fruits. Oldest city in France, founded between 500 and 600 B.C. by a colony of Greeks. (1).
- Memel**. *Ch. Exp.* timber, flax, hemp, corn, hides, tallow, bristles, wax and feathers. (2). Memel is situated at the mouth of the Frische Haff, in East Prussia. Baltic timber is floated down the Niemen to this port, hence it is, in commerce, called Memel timber. (4).
- Milford Haven**. Limestone, culm, anthracite for drying malt. English gained a victory over the French fleet 1406. Richard II. landed here on his return from Ireland to oppose Henry, Duke of Lancaster. (1). The Earl of Richmond, afterwards King Henry VII., landed here to oppose Richard III. From this port Oliver Cromwell sailed for his campaign in Ireland.
- Nantes**, in the west of France. *Ch. exp.* wine, brandy, vinegar, woollen cloths, silk, paper, linen, gold and silver lace, hardware, and furniture. Attacked by the Vendéans under Cathelineau in 1793. Nearly the

- whole of the inhabitants were butchered soon after by Carrier and other Republican agents. (2). Wine, brandy, &c., Edict in favour of Protestants by Henry IV. in 1598; revoked by Louis XIV., 1685. (1).
- Napoli-di-Malvasia.* South-east of the Morea, near to Cape St. Angelo. *Exp.* wine, called by us, "Malmsey."
- Naples.* Wine, oil, liquorice, agricultural produce. In the neighbourhood, Vesuvius, Herculaneum, and Pompeii. (1). *Ch. exp.* oil, raw silk, liquorice, corn, brandy, and wine. (2). The largest city in Italy. Churches and public buildings numerous.
- Newcastle-upon-Tyne.* Coal, coke, grindstones, iron goods, machinery, earthenware, glass, chemical products, cordage, painters' colours, shot, paper, sailcloth, &c. Henry III. granted a licence to dig coal. Baliol did homage for the crown of Scotland in the reign of Edward I. Charles I. was brought here by the Scots after he surrendered to them. (1).
- Odessa,* on the Dniester. Second port of Russia, and first corn. (3). Second port. *Exp.* immense quantities of corn, linseed, wool, iron, hides, copper, wax, caviar, isinglass, potash, furs, cordage, sailcloth, beef, butter, tallow. Founded by the Empress Catherine 1792. (1). In the south of Russia. *Ch. exp.* corn, flax, timber, tallow, and hides. Bombarded by the English and French fleets during the war with Russia in 1854. (2).
- Oporto,* on the Douro. *Exp.* port wine and fruits. (3). A seaport of Portugal. *Ch. exp.* wine, oil, lemons, and oranges. His. Mem.: the scene of the struggle between Don Pedro and Don Miguel for the throne of Portugal in 1831-3. (2). Chief port for the export of wine, oil, fruits, wool, cork, &c. (1).
- Palermo.* Wine, spirits, fruit, sulphur, skins, oil. Insurrection 1848, when it was partially destroyed by the King of Naples. (1). The capital of Sicily. Splendid cathedral supported by 80 oriental columns. Upwards of 100 churches.
- Perth.* Coal, lime, salt, potatoes, timber, slates. Cromwell took it 1651. The old Pretender proclaimed here 1745. (1). See "Historical Geography" in *Pupil-Teacher*, Vol. II., p. 206. (4).
- Piræus,* the chief seaport of Greece. *Ch. exp.* corn. (2). It is the port of Athens, which is five miles inland. (4).
- Patras,* North-west coast of the Morea. *Exp.* currants, which grow abundantly in its vicinity. (4).
- Plymouth.* *Exp.* soap, sailcloth, cement, earthenware, twine, fish, &c. Saxon name Tamarworth. Greatly improved in Elizabeth's reign by Sir. F. Drake. Napoleon visited it in the "Bellerophon." (1).
- Portsmouth,* on the Isle of Portsea, Hampshire. Principal naval port. Strongest fortification in England. Robert of Normandy landed here with his army in 1101.
- Palos,* Andalusia. Hence Christopher Columbus sailed in 1492, on his first voyage of discovery. (4).
- Riga,* Russia. *Ch. exp.* corn, timber, flax, hemp, linseed, tallow, leather, and sailcloth. This city, at the beginning of the 16th century, belonged to the Order of the Teutonic Knights; from them it was captured by

- the Poles in 1561. Peter the Great captured it in 1710, after a most desperate resistance. (2). *Exp.* much timber, hemp, and corn. (3). *Exp.* flax, hemp, timber, tallow, grain, sailcloth, &c. (1).
- Rotterdam**, Holland. The *exp.* consist of nearly every kind of Dutch manufacture, as, butter, cheese, fire-arms, and all kinds of iron goods. (2). *Exp.* cheese, butter, flax, linseed, madder, garden-seeds, sheep and cattle. Erasmus born here. Tomb of Admiral de Witt.
- Saloniki**, Turkey. *Ch. exp.* corn, figs, oil. St. Paul preached here during his second apostolic journey. Called at that time Thessalonica. (2). Corn, cotton, tobacco, timber, wool. (1). It is the chief of Turkey. Celebrated for its carpets.
- Santander**. The port of Old Castile. *Exp.* wool.
- Seville**. Quicksilver, lead, copper, olive oil, wool. (1). On the Guadalquivir. It is the capital of the Spanish province of Andalusia. Its ancient name was Hispalis. Famous for its bell-ringers and oranges.
- Sligo**. Provisions, grain, flour, linen yarn, &c. (1). Capital of county Sligo, province of Connaught.
- Southampton**. Emigration port. Canute crowned here 1016. Edward III., with 1,000 sail, embarked for France. (1). On the Itchen. Principal port on the south-coast of England. Birthplace of Dr. Isaac Watts. (4).
- Stettin**. A small seaport on the Baltic. *Ch. exp.* timber, corn, hemp, and flax. (2). Near to the mouth of the Oder. Capital, Pomerania. Its port for larger vessels is *Swinemünde*.
- Stockholm**. Capital of Sweden. Built on islands of L. Melar. Called the "Venice of the North." *Exp.* iron, timber and deals. Two great fires, in 1751 and 1759. (3). The capital of Sweden and an important seaport. *Ch. exp.* iron, timber, tar, pitch, copper, cobalt, linseed oil, steel, and a few manufactured goods, as silk, cloth, leather, and soap. (2). Iron, copper, tar, timber. Called the "Venice of the North," on account of being built upon islands. (1). Most of its public buildings are roofed with copper.
- Swinemünde**, island of Usedom (*see Stettin*). (4).
- Petersburg**, on Gulf of Finland. Considerable trade. Vessels unload at Cronstadt. *Exp.* tallow, flax, timber. Built by Peter the Great, 1703. Dreadful inundation, 1777. (3). The capital of Russia. *Ch. exp.* hemp, flax, tallow, leather, iron, coarse linen, bees wax, linseed oil, tar, and potash. Taken by Peter the Great from the Swedes in 1702. The city, in building, cost the lives of upwards of 100,000 men. (2). Cronstadt its port. *Exp.* timber, &c. Founded by Peter the Great. (1).
- Sunderland**. Coal, lime, grindstones, glass, and other manufactured goods. (1). On the Wear, Durham.
- Swansea**. Copper, iron, coal, culm, lime, earthenware. (1). On the Bristol Channel, Glamorganshire.
- Tarragona**, Catalonia. The Roman "Tarraco." *Exp.* nuts to England, also "Tarragon vinegar." Captured by French in 1811.
- Tariffa**, the most southerly point of Spain and of Europe. At this port the Moors formerly claimed a toll on merchant vessels entering the Mediterranean. Hence the word "tariff."

- Tornea*, on the northern shores of the Baltic Sea. *Exp.* timber, salt fish, reindeer skins, pitch, and potash. (2). Geographically, it belongs to Sweden; politically, to Russia, to whom it was ceded in 1809. (4).
- Trieste*. Chief port of Austria. Since the fall of Venice, in 1797, it has greatly increased, as its rival has lessened, in importance. Trade in oil, wine, silk, and corn. (3). *Ch. exp.* metals, linen, woollen goods, and printed calicoes. (2). Corn, rice, oil, wax, flax, hemp, tobacco, silk. (1). It is the only Austrian seaport not in Italy. (4).
- Tenby*, Pembrokeshire. Oysters, coal, culm. (4).
- Toulon*, Provence, department of Var. The only French naval port on the Mediterranean. *Exp.* East India produce, &c. (4).
- Valencia*, Spain. *Ch. exp.* raisins, figs, oil, wine, silk, soap, paper, pottery, and glass. Captured by the Moors in 712; taken from them by the Spaniards in 1238. Captured by the French in 1812, who kept it till 1813. (2). Rice, fruit, cordage, wool, &c. (1).
- Varna*. Grain, poultry, eggs. Captured by Russians, 1828. Expedition to Sebastopol sailed from here, 1854. (1).
- Venice*, in the north of Italy, on the Adriatic Sea. *Ch. exp.* corn and oil. Once the most flourishing seaport of Europe. It was taken by the French in 1796, evacuated by them in 1797. (2). Timber, rice, linen, glass, coral, &c. Tombs of the painters Titian, Paul Veronese, and the sculptor Canova. (1).
- Waterford*. Bacon, pork, butter, grain, flour, meal, cattle, sheep, pigs, &c. James II. here embarked for France after his defeat at the Boyne. (1).
- Whitehaven*. *Exp.* coal, iron ore, cattle, and provisions. (1). On the Solway Frith, Cumberland. *Exp.* coal, ironstone, &c. (4).
- Xacca*, or Sciacca, Italy. *Exp.* sulphur, barilla, &c. (4).
- Yarmouth*, on the Yare, Norfolk. Finest quay in Europe. *Eap.* herrings, &c. Ket, the tanner, attacked the town in 1549. (4).
- Zante*, in the Mediterranean. One of the Ionian Islands. *Exp.* currants and petroleum. *Imp.* corn. By the treaty of peace in 1815, the Ionian Islands were placed under the protection of Great Britain. (4).

ALPHABETICAL ABSTRACT, ACCORDING TO THE COUNTRIES TO WHICH THE PORTS NOTICED BELONG.

BY THE EDITOR.

- Austria* : Trieste.
- Belgium* : Antwerp.
- Denmark* : Aalborg, Aarhus, Altona, Elsinore, Flensburg.
- England* : Bristol, Gloucester, Hull, Liverpool, London, Milford, Newcastle, Plymouth, Portsmouth, Sunderland, Swansea, Tenby, Whitehaven, Yarmouth.
- France* : Ajaccio, Bordeaux, Boulogne, Calais, Dunkirk, Frejus, Havre, Marseilles, Nantes, Toulon.
- Germany* : Hamburg.

Greece : Napoli-di-Malvasia, Patras, Piræus.

Holland : Amsterdam, Flushing, Rotterdam.

Ionia : Zante.

Ireland : Belfast, Cork, Drogheda, Dublin, Dundalk, Londonderry, Sligo, Waterford.

Italy : Ancona, Gallipoli, Genoa, Leghorn, Naples, Palermo, Venice, Zacca.

Norway : Bergen, Christiana, Christiansand.

Portugal : Lisbon, Oporto.

Prussia : Dantzic, Königsberg, Stettin, Swinemünde.

Russia : Abo, Archangel, Astrakhan, Kherson, Odessa, Riga, St. Petersburg, Varna.

Scotland : Aberdeen, Cromarty, Dundee, Edinburgh, Glasgow, Greenock, Perth.

Spain : Alicante, Barcelona, Bilboa, Cadiz, Corunna, Malaga, Palos, Seville, Tarragona, Tariffa, Valencia.

Sweden : Stockholm, Tornea.

Turkey : Constantinople, Galatz, Gallipoli, Kostendji, Saloniki.

Editor's Exercises.

HISTORICAL GEOGRAPHY.

10. Write out methodically and briefly, historical notes relative to Eltham.
11. Write out methodically and briefly, historical notes relative to Durham.

BIOGRAPHY.

3. A short, but full sketch, of the life of Sir W. Raleigh.

ANSWERS.

6. HISTORICAL NOTES RELATIVE TO DORKING.

Dorking was called Dolocindo in the beginning of the 5th century—Dorchinges in the Domes-day Book—and towards the end of Elizabeth's reign it began to be frequently but erroneously called Darking. When it was first called Dorking cannot be accurately determined, but it is known by that name in all public records, from the early part of the 13th century to the end of the 16th, when Darking was substituted.

Its name is derived either from the British *dal o cyn dwr* (dale of springs), or from the British *dur* or *dor* (water), and the Saxon *wicingas* (inhabitants), thus meaning, the dwellers by the water.

Dorking was an important station on the Stane-street, a Roman road leading from Arundel to London. This road crossed an angle of what is now the church-yard, and ran nearly parallel with the present High-street.

Its situation early rendered it an important commercial town. It was divided by the Saxons into two divisions; for what purpose is not known.

Tradition says it was destroyed by the Danes, but rebuilt by Canute on his becoming king.

It formed part of the possessions of Queen Edith, wife of the Confessor. It was afterwards held by the Conqueror, and given by him to his daughter Gundreda on her marriage with the first Earl de Warenne. At the time of the Domesday survey it contained a church and four mills.

In the 7th year of Edward I., judges allowed the claims of John Plantagenet, 7th Earl de Warenne and Surrey, to hold a market twice a week, on Mondays and Thursdays, and a fair annually on the eve and day of the Ascension.

In the reign of Richard II. a new church was built, the old one being very much dilapidated.

In the years 1568, 1603, 1610, 1625, 1643, 1644, and 1647, Dorking was ravaged by the plague.

The assizes were held here in 1625, 1636, 1637, 1639, 1647, 1668, and 1669, during which period several criminals were condemned and executed in a quarter of the town still called Gallows-Lane.

In 1649 the town was paved, or rather, pitched.

One of the oldest Nonconformist communities in Surrey was established here after the passing of the Act of Uniformity in 1662.

In 1812 and 1814 the streets were well paved.

In 1813 the Market-house, which is also used as a Town-hall, was pulled down by the Duke of Norfolk, who promised to erect another; but he died soon after, and his executors refused to do it, and the townspeople were prevailed upon to accept a sum of money instead, so the Town-hall has never been rebuilt.

An assembly-room was built in 1820.

Gasworks were established in 1835.

In 1837, the old church being past repair, a new one was erected.

The town was connected by rail with the metropolis in 1849.

A cemetery was opened in 1856.

The increasing population of the town demanding more church accommodation, another building was erected in 1857.

The parish, which is a very large one, now contains the mother church and four district churches, besides several other places of worship belonging to different denominations.

The population of Dorking has nearly doubled within the last fifty years.

The town, which has the reputation of being one of the cleanest in England, is divided, for parochial purposes, into four boroughs.

It formerly sent members to Parliament, but afterwards petitioned that it might be disfranchised, on account of the expense.

Dorking is noted for its fowls with five claws, supposed to have been introduced by the Romans; and for its lime, which has the peculiar property of hardening under water.

The Monday market, established by Earl de Warenne, has been long since abolished; but the one on Thursdays is still continued; and a monthly stock market was established in 1859 with success.

At the rear of the town is a tract called Cotmandene, now devoted to the recreation of the inhabitants, but which is supposed to have been an ancient encampment.

A short distance from the town, on Milton Heath, is a large tumulus.

A mile S.W. of Dorking is Bury Hill, considered by some to have been a British, and afterwards a Roman stronghold.

Four miles S.W. of the town is Anstie, or Hanstie Bury, an encampment of Danish formation, perhaps occupied by them before the decisive battle of Ockley, in 851.

A little further S.W. is Leith Hill, 993 feet high, the highest point in Surrey.

The neighbourhood of Dorking is very rich in fossils, and great numbers of ancient British and Roman coins, spear-heads, &c., have been found.

Dorking has been the residence of several very celebrated men.

The Rev. John Mason, author of "Self-Knowledge," was pastor of the Nonconformist community here, from 1729 to 1746.

Dr. Andrew Kippis, author of "Biographia Britannica," was minister over the same community from 1750 to 1753.

Abraham Tucker, author of the "Light of Nature Pursued," and several other works, resided here from 1727 to 1774.

Jeremiah Markland, the celebrated critic and philological writer, resided at Milton Court, in this parish, from 1752 to 1776, when he died, and was buried in Dorking church, where a brass tablet was erected to his memory.

Notes and Queries.

*• We wish it to be distinctly understood that we do not guarantee that all the *notes, replies, &c.*, are correct. Criticisms on lessons, parsing, &c., are requested. The Subscribers to the "Pupil-Teacher" should consider themselves as members of a Mutual Improvement Society, and regard our periodical as their medium of intercommunication.

Our Notes and Queries are of three classes:—

I.—Mathematical.

II.—Philological, including Grammar, Paraphrasing, Composition, &c.

III.—Miscellaneous, including all questions on subjects of Study or Method. Questions of Discipline or Management, affecting Pupil-teachers, are discussed in the EDITOR'S COUNCIL.

In sending answers, merely refer to the number and page thus:—"Mathem. No. —, p. —;" "*Philol.* No. —, p. —;" "*Miscell.* No. —, p. —."

N.B.—The *number* refers to the *query*, not to the "Pupil-Teacher."

MATHEMATICS: SOLUTIONS, &c.

15 (p. 10).—In the railway 4 per cent. preference shares,
the income on the whole investment = £260;

$$\therefore \text{the number of cents. invested} = \frac{260}{4} = 65;$$

and since the railway shares are at *par*,
the sum invested = $65 \times 100 = \text{£}6,500$.—1st Ans.*

Again, this sum invested in the 3 per cent. consols,
produces an income of £200;

$$\therefore \text{the number of cents} = \frac{200}{0} = 66\frac{2}{3};$$

$$\therefore \text{the value of each cent. in this investment,} \\ = \frac{6500}{66\frac{2}{3}} = \frac{19500}{200} = \text{£}97\frac{1}{2} = \text{price of consols.} \text{—2nd Ans.}$$

* The answer given in "Barnard Smith's Arithmetic" is £2,600, which I think must be incorrect; for if £2,600 were invested in the 3 per cents. consols at $97\frac{1}{2}$, the income would = $\frac{2600}{97\frac{1}{2}} \times 3 = \text{£}80$; and again, if it were invested in the 4 per cent. preference shares at *par*, the income would = $\frac{2600}{100} \times 4 = \text{£}104$; neither of which coincide with those in the question. I shall be much obliged if the Editor will kindly give his attention to this.

ROBIN HOOD.

[The answer in the book is evidently wrong.—ED.]

Answered also by Rose Villa, Urban, Pitt, Campbeltown, Trigon, John Sinclair, Aaron Smith.

26 (p. 102).—Put D = diameter of the sphere, h the depth of the part immersed, $p = .5236$; then by mensuration the solidity of that part $= (3D-2h)ph^2 = 24$.

$$\text{hence } D = \frac{8}{ph^2} + \frac{2h}{3} \text{ — } a$$

therefore $6Dph = \frac{48}{h} + 4ph^2 =$ the surface of the part immersed.

$$\text{Put } \frac{48}{h} + 4ph^2 = m, \text{ a minimum.}$$

$$\text{then } h^3 - \frac{mh}{4p} + \frac{12}{p} = 0 \text{ — } b.$$

By Cardan's rule

$$h = - \left(\frac{6}{p} + \frac{1}{p} \sqrt{36 - \frac{m^3}{1728p}} \right)^{\frac{1}{3}} \\ - \left(\frac{6}{p} - \frac{1}{p} \sqrt{36 - \frac{m^3}{1728p}} \right)^{\frac{1}{3}}$$

Now it is obvious that if m be a minimum, h will be a maximum; hence as $(a + v)^{\frac{1}{3}}$ will increase less from $a^{\frac{1}{3}}$, than $(a - v)^{\frac{1}{3}}$ will diminish from $a^{\frac{1}{3}}$, it follows that for h to be a maximum we must put $36 - \frac{m^3}{1728p} = 0$

$$\text{therefore } m = 12\sqrt[3]{36p}$$

$$\text{hence } h = -2 \left(\frac{6}{p} \right)^{\frac{1}{3}}$$

Substituting this value of m in (b) we get

$$h^3 - 3h \left(\frac{6}{p} \right)^{\frac{2}{3}} + \frac{12}{p} = 0$$

$$\text{This divided by } h + 2 \left(\frac{6}{p} \right)^{\frac{1}{3}}$$

$$\text{gives } h^3 - 2h \left(\frac{6}{p} \right)^{\frac{2}{3}} + \left(\frac{6}{p} \right)^{\frac{1}{3}} = 0$$

$$\text{from which we find } h = \left(\frac{6}{p} \right)^{\frac{1}{3}}$$

And from (a) —

$$D = \frac{8}{p \left(\frac{6}{p} \right)^{\frac{2}{3}}} + \frac{2}{3} \left(\frac{6}{p} \right)^{\frac{1}{3}}$$

W. G. W.

Answered also by S. Edwards, Urban, and Alpha.

25. (p. 102.)—

$$(11)-(1) \quad (x + y + z)(z - y) = 18 (A)$$

$$(11)-(11) \quad (x + y + z)(y - x) = 18 (B)$$

$$\therefore A \div B \text{ gives } y = \frac{x + 3}{2}$$

Substituting value of y in (1) & (11)

$$(1) \quad 7x^2 + 4xz + z^2 = 52$$

$$(11) \quad x^2 + 4xz + 7z^2 = 196$$

$$\therefore (11)-(1) \text{ gives } z = \sqrt{x^2 + 24}$$

Substituting value of z in (11)

$$2x^2 + x\sqrt{x^2 + 24} = 7, \text{ from which quadruple.}$$

$$x = 1$$

$$\therefore y = 3 \text{ from (1)}$$

$$\& x = 5 \text{ from (11).}$$

The above solution, if carefully followed, is sufficiently clear as to require no explanation.

N. SANDERSON.

Answered also by W. G. W., Urban, S. Edwards, Taibach.

PHILOLOGICAL: PARSING, &c.

I (p. 11.)

GENERAL ANALYSIS.

Subject.	Predicate.	Completion.	Extension.
I	broke	with thee of Arthur's death ;	(but) taking note of thy abhorred aspect—finding thee fit for bloody villany—(finding thee) apt, liable to be employed in danger.

DETAILED ANALYSIS.

- (a) *I*.—Subject of sentence.
- (b) *Broke*.—Predicate of sentence.
- (c) *With thee* of Arthur's death.—Indirect object to (b) 1.
- (d) *Faintly*.—Extension to (b) manner.
- (e) *Taking* note of thy abhorred aspect. Extension to (b) 2.
- (f) *Finding* thee fit for bloody villany. Extension to (b) 2.
- (g) (*Finding thee*) apt, liable to be employed in danger.—Extension to (b) 2.

PARSING. (MORELL)

Taking.—Pres. part. from verb "*to take*." Attributive to "*I*."

Note.—Abs. noun. sing. neut. obj. aft. "*taking*."

Finding.—Pres. part. from verb "*to find*." Attributive to "*I*."

Fit.—Adj. positive degree, qual. "*thee*."

Apt.—Adj. positive degree, qual. "*thee*."

Liable.—Adj. positive degree, qual. "*thee*."

To be.—Verb. in infinitive mood.

Employed.—Past part. from verb "*to employ*."

THOMAS E. JONES.

Answered also by the following (names in order of merit):—C. H. Northam, J. Sinclair, Z., A. Smith, Leonidas, Robin Hood, Silox, Fortinbras, R. McWilliam, D. A. Davies.

6. (p. 11).—I have *only* seen him since I have been here;—that is, have not more than seen him; have not conversed with him.

I have seen him *only*, since I have been here;—that is, I have seen no one else.

I *only* have seen him, since I have been here;—that is, no one else has seen him.

I have seen him, *only* since I have been here;—that is, I never saw him before.
SILEX.

MISCELLANEOUS.

11. WEST INDIAN ISLANDS (p. 102).—The following list comprises some of the more important circumstances connected with the acquisition of each of the British West Indian Islands :—

Bermudas.—Discovered by Juan Bermudez in 1522; settled by Sir G. Somers, an Englishman, who was wrecked there in 1609.

Bahamas.—Discovered by Columbus (in 1492), to whom the merit of the discovery of most of the W. I. Islands is due. Settled by the English in 1629. Taken by the Spaniards in 1781. Restored to Britain by the treaty of Versailles, in 1783.

Jamaica.—Held by Spaniards from 1509 to 1655, when an English force under Penn and Venables captured it. From 1666 to 1670 it was the scene of many of the reckless deeds of the Buccaneers. Has belonged to Britain since 1655.

LEWARD ISLANDS.

Tortola
Virgin Gorda } Taken from the Dutch Buccaneers in 1666.
Anegada }

Antigua } Colonised by Sir T. Warner, in 1632. Taken by the French in 1666;
Anquilla } but restored to Britain in 1667, by treaty of Breda.

St. Kitts.—Colonised by Sir T. Warner, in 1623. Taken by French in 1629; restored to Britain in 1667, and confirmed in 1713 by the treaty of Utrecht. Again taken by French, under De Grasse, in 1782, and finally ceded to Britain in 1783.

Nevis.—Colonised by Warner in 1628; confirmed to Britain in 1783.

Montserrat.—Planted by Warner 1632. Taken by French in 1664, but restored to Britain in 1667.

Dominica.—Disputed for many years between England, France, and Spain. Possessed by Britain from 1761 to 1777, when it was taken by French. Restored to Britain in 1783. Again taken by French in 1805, but restored same year.

Barbuda.—Granted to Gen. Codrington by Queen Anne. Still a private estate, independent of the Crown.

WINDWARD ISLANDS.

St. Lucia.—Occupied by English 1639. Taken and retaken *seven* times during the French Revolution. Ceded to Britain in 1803.

St. Vincent.—Taken by English in 1672 from the Caribs. Possessed by French from 1779 till 1783, when it was given up to Britain.

Grenada } Colonised by French in 1650. Taken by English in 1762; retaken in
Grenadines } 1777 by French, under Count D'Estang. Ceded to Britain in 1783.

Barbadoes.—Settled by Sir W. Courteen in 1624. Charles I. made separate grants of it to Lords Marlborough, Carlisle, Pembroke, and Willoughby, who successively possessed it. It held out for Charles I. against Cromwell, but it was betrayed by Col. Modiford.

Tobago.—Colonised by English in 1625. Possessed by Dutch in 1632; Spaniards in 1634; and Dutch again from 1657 to 1677. Confirmed to Britain in 1763, by treaty of Fontainebleau. Captured by French in 1781, and held by them till 1793, when it was taken by Gen. Cuyler, and annexed to Britain.

Trinidad.—Colonised by Spaniards in 1498. Visited by Raleigh. Taken by Hervey and Abercrombie in 1797 from Spaniards. Confirmed to Britain in 1802, by treaty of Amiens.

Answered also by E. B. LOYND.

QUENTIN.

MATHEMATICS:—PROBLEMS.

27. (FRANK).—A farm is let for £96 and the value of a certain number of quarters of wheat. When wheat is 38s. a quarter, the whole rent is 15 per cent. lower than when it is 56s. a quarter. Find the number of quarters of wheat which are paid as part of the rent.—*Barnard Smith's Arithmetic*, p. 248. [N.B. This question to be worked by arithmetic.—Ed.]

28. (POMPUS IGNORAMUS).—A toll-keeper received in one day £18 5s. Coaches paid 1s. each; chaises, 4d. each; ridden horses, 2d. each; and foot passengers, 1d. each: and for every coach there passed 4 chaises, 3 horses, and 8 passengers. How many of each?

29. (LEONARDO DA VINCI).—A and B can do a piece of work in 18 days: A can do it alone in 10 days. How long would it take B to do it?

30. (W. G. W.).—Find by Algebra the value of x which makes $\frac{px^2 + qb^3}{(px - qb)b}$ a minimum.—*See Dealt's Fluxions*, page 407.

$$31. (\text{JOHN SINCLAIR}).—xy = x + y \quad (1)$$

$$xz = 2(x + z) \quad (2)$$

$$yz = 3(y + z) \quad (3)$$

Required, the values of x, y, z .—*Colenso's Alg.*

PHILOLOGICAL:—QUERIES, &c.

10. (ANNIE).—Paraphrase, parsing the words in *italics*, the following, from Herbert:—

SIN.

Lord, with *what* care dost thou begirt us round!
Parents first season us; then schoolmasters
Deliver us to laws; they send us *bound*
To rules of reason; holy messengers.

Pulpits and Sundays, sorrow *dogging* sin,
Affliction sorted, anguish of all sizes,
Fine nets and stratagems to catch us in,
Bibles laid open, millions of *surprises*.

Blessings beforehand, ties of gratefulness,
The sound of glory ringing in our ears.
Without, *our shame*; within, our consciences.
Angels and grace, eternal hopes and fears.

Yet all these fences and their whole array
One cunning bosom-sin blows quite away.

MISCELLANEOUS:—QUERIES.

12. (W. G. W.).—Dr. Gordon once said to a friend, "A locomotive engine does not move, and I defy you to disprove my argument. A body only occupies a space equal to itself; it cannot hold two spaces at one and the same time, it cannot move where it is, and it cannot move where it is not; and therefore it does not move at all. This argument (said he) was employed 3000 years ago, and it is unrefuted yet."

Can any of your numerous correspondents show where the error lies in the above reasoning?—See Narrative of Dr. Gordon, by Newman Hall, price three-pence. Snow, 35, Paternoster Row.

13. (F. JONES).—Give a brief account of the Long Parliament, and the principal Acts passed by it.

EXAMINATION OF CANDIDATES FOR QUEEN'S SCHOLARSHIPS.—
CHRISTMAS, 1859.

(Continued from page 108.)

SCHOOL MANAGEMENT.

Three hours allowed for this Paper.

Write the first line of your first answer as a specimen of copy-setting in large hand, and the first line of your second answer as a specimen of copy-setting in small hand.

1. How would you arrange a class in parallel desks?
2. Are there any subjects you cannot teach in parallel desks?
3. Explain your method of obtaining silence in a gallery, and attracting attention, and recalling (from time to time) the inattentive to order?
4. Name the subjects you would teach in a gallery.
5. What process was used in your own school to teach reading to the very youngest classes? Who chiefly did it, the Master or the Pupil-teacher?
6. In commencing writing with a child, explain how you would begin, and what you would tell him to do.
7. Mention the different ways of giving a reading lesson in your school.
8. How would you teach a child to draw maps? Explain the process by the aid of diagrams.
9. What use has been made of the black board in your school, and for what subjects?
10. Mention the advantages and defects of parallel desks.
11. What registers and time-tables are necessary for a school of 100, with two Pupil-teachers, and how many classes should there be?
12. What ill effects in schools may arise from bad ventilation or lighting?
13. What games can you play at, and, if necessary, teach?
14. Sketch (a drawing) as well as you can any gymnastic apparatus in use in your school or elsewhere.

MUSIC.

[Not more than three questions to be answered.]

I. (1) Write down the diatonic major scale on the treble staff, in two positions, with the names of the notes. (2) Write the diatonic minor scale on the bass staff, in two positions, with the names of the notes.

II. Write down the names of the notes, as they are successively sharpened in the scales with sharps, and flattened in the scales with flats.

III. (1) Write one bar of common time: (a) in minims; (b) in crochets and quavers; (c) in crotchets and semiquavers. (2) Write a bar of triple time, with one minim and one crotchet, and affix its proper signature.

IV. (1) Write on the alto staff the following notes: G, E, B, C sharp, and A flat; (2) Write the following on the tenor staff, F, D, G sharp, and E flat, prefixing the appropriate signatures.

ARITHMETIC.

Three hours allowed for this Paper.

1. Explain, as you would to children, how to subtract 1,607 from 10,340.
2. How many francs, each $9\frac{1}{4}d.$, are there in £2,850.?
3. A train, consisting of 3 first, 4 second, and 5 third class carriages, travels from London to York, a distance of 191 miles. Each first-class carriage contains 18 persons, each second-class 32, and each third-class 48. The rates per mile are—1st class, $2\frac{1}{4}d.$; 2nd class, $1\frac{1}{4}d.$; 3rd class, $1d.$ Find the sum of the fares paid by the passengers.
4. Find, by Practice, the cost of $1,087\frac{1}{2}$ pounds of butter at $11\frac{1}{2}d.$ per pound; and of 15 acres $2\frac{1}{2}$ poles of land at £7 13s. 9d. per acre.
5. Find the cost of cleaning 7,260 square yards of ground at 1s. $9\frac{1}{2}d.$ per perch.
6. Find the Income Tax on £498 15s., at 7d. in the pound.
7. If 18 horses eat 37 qrs. 7 bush. 3 pks. of corn in 45 days, in what time will 50 horses eat 25 quarters?

8. A tunnel $\frac{7}{16}$ mile long, is excavated at the rate of $\frac{1}{12}$ yard per day: in how many years will it be completed?

9. An estate, worth £10,000, is left to A, B, and C; $\frac{2}{3}$ to A, $\frac{2}{5}$ to B, and the remainder to C. Find C's portion, and its value.

10. State, and prove (if you can), the rules for pointing in Division of Decimals. Find the value of £.000546875, — .175.

11. What is the interest on £154 16s. 8d. for 4 years 219 days, at $3\frac{1}{2}$ per cent. per annum?

12. What sum of money, put out to interest, will amount to £194 16s. 1 $\frac{1}{2}$ d. in $2\frac{3}{4}$ years at 4 per cent. per annum?

13. If I invest £1,200 in the 3 per cents. at 72, what is my income, and how much per cent. do I get for my money?

*14. Find the acreage of a triangular field whose sides are 45, 40, and 13 chains respectively.

*15. Find the cost of covering with gravel, at 7 $\frac{1}{2}$ d. per square yard, a path 3 feet wide, round the outside of a bed whose diameter is 9 feet.

* These questions are specially for male candidates.

Notices of Books.

MONTHLIES.

[For Price and other particulars see *February* number (vol. iii.) pp. 44, 45. We find it necessary, in consequence of our limited space, to modify our plan, and merely to notice the most remarkable features in each.]

1. *Recreative Science*, No. 9.—This number commences with an excellent paper, having, however, an ambiguously-worded title, "Seed, in Two Parts." We are much pleased with the paper on the "History and Uses of the Hemp." "Sportive Exercises upon Musical Notation" is very amusing, and might be made instructive also.

2. *The Family Treasury* (April).—The biographical sketch of Bishop Wilson is concluded. The number is replete with what is excellent.

3. *The Penny Post*, No. 112.—Another paper on "The Search for Sir John Franklin," with a map of the Arctic Regions. The Notes on the Month seem to improve in each number.

4. *Old Jonathan*, No. 48.—The illustrations are, we think, superior to those generally found in penny periodicals. *Old Jonathan's* friends seem to be doing wonders in the way of introducing him everywhere.

5. *English Journal of Education*, No. 160, N.S.—Opens with an article on "Female Education;" next is a well-written article on "Elementary School-Books." The "Literary Necrological Record" occupies four full pages; it is a most useful compilation.

6. *The School and the Teacher*, No. 28, N.S.—"The Necessity of Logical Teaching" is a very sensible, and withal very entertaining, lecture. It is one read before the "United Association of Schoolmasters."

7. *The National Society's Monthly Paper*, No. 141.—Our old friend is trying new plans, amongst which that of "intercommunications" is conspicuous. "Scrap Book Columns" is a good idea, but, as our readers can testify, not a new one.

The History of a Ship from her Cradle to her Grave. By GRANDPA BEN. London: W. H. Collingridge, 117 to 119, Aldersgate Street. Cloth, gilt, pp. 312. Price 3s.

There is scarcely a British boy, old enough to distinguish a ship from a shaving-shop, who has not to some extent what the fond maternal parents of our hardy sea-boys call "a fancy for the sea." Our insular position, our great extent of coast line, our historical antecedents, our maritime greatness, and other cognate circumstances, all contribute to this. Take a class of boys in any school in the three kingdoms, promise to tell a tale about a voyage, a sea-fight, or a shipwreck, and if you fail to secure attention you had better give up all pretension to the *Teacher's art*.

To tell a tale of the sea as it ought to be told, technical terms *must* be used, and they *should* be explained. Hence to the Teacher the *History of a Ship* is invaluable. Everything connected with the parts, appliances, and managing of vessels of various designations, is explained as simply as possible; not in a dry multiplication-table-like style, but as charmingly as "Jack-the-Giant-Killer." It has numerous illustrations, and is beautifully got up. The only drawback is the price. As a book, it is dear: as the *History of a Ship*, it is cheap.

Vessels and Voyages. A Book for Schoolboys. By UNCLE GEORGE. London: W. H. Collingridge. 1860. Cloth, pp. 138. Price 1s. 6d.

In point of attractiveness, this little book is equal to the one which we have just noticed, and of which it forms an interesting companion-book. Its burden is happily described by its title.

Digest of the Rules and Regulations of the Committee of Council on Education. London: Groombridge and Sons. 1860. Price 2s.

This *Blue-Book* "prepared under the direction of the Home and Colonial School Society," will, we believe, be found essentially serviceable to those who have not time or opportunity to wade through the Committee of Council Reports. It has been carefully compiled, and the price is such as will enable every Teacher to possess a copy.

Lectures on the History of England, delivered at Chorleywood. By WILLIAM LONGMAN. Lecture II. London: Longman and Co. 1860. Price 2s.

These lectures are invaluable addenda to school text-books of English History. To Pupil-teachers we strongly and specially recommend them, for this reason: Mr. Longman has gathered his information from a number of works *some* of which are very rare, and *all* of which are so expensive as to be beyond the reach of the generality of elementary teachers. Mr. Longman does not attempt to be rhetorical or profound. His language is simple, but not puerile. If he does not make the driest subjects amusing, he makes them interesting. The first lecture was "From the earliest times to the death of King John." In this one, the lecturer takes "a general view of some of the institutions of the country which existed at the death of King John, some of which indeed began much earlier, but many of which were greatly changed during his reign and that of his immediate successors." The Feudal System is ably treated on. The illustrations are singularly interesting.

Modern Geography, for the use of Schools. By ROBERT ANDERSON, Head Master, Normal Institution, Edinburgh. London: T. Nelson and Son. 1860. Sixth Edition. Cloth, fcp. 8vo, pp. 223. Price 1s. 6d.

We have much pleasure in seeing another edition of this excellent Geography. The typography and getting up, the size of the book, and the labour that has been bestowed on its compilation, render it remarkably cheap.

Recreative Exercises.

* * * The Proposer is, in each case, required to forward to the Editor the Answer *in detail*, with the Exercise.

IX.—The *initials* of the answers to the following questions give the name of one of the prophets remarkable for his wisdom and piety, even in early years. The *finals* give a judge of Israel, whose name signifies "Splendid Sun."

The town where St. Paul first preached "Christ, the Son of God."

A captain of Israel, who was treacherously slain by Joab.

The name given to those who performed the servile offices of the Tabernacle.

One of the names of the chosen people of God.

The valley between Hebron and Jerusalem, and the first city taken by the Israelites.

A range of mountains in Palestine, famed for its cedars.

H. M. S.

X.—The *initials* will give the name of a city doomed by our Lord to destruction.

The *finals* will give the name of a man eminent for his charity and loyalty.

1. The father-in-law and brother of one of the judges of Israel.
2. The abode of a counsellor, who was also a true disciple of Christ.
3. A feast of the Jews which was honoured by our Lord's presence.
4. A man who declared that man's goodness could in no way profit God.
5. A brother to three men who were soldiers in a king of Israel's army.
6. A man highly commended by our Lord for his belief in Him.
7. A woman who, by her discretion and humility, pacified the wrath of one who sought her husband's life.
8. A man of the tribe of Levi, who was chosen with others to sing praises to God, on the setting up of the ark in Jerusalem.
9. A prophet whose chief object was to reprove the Jews for their ingratitude, and also to foretell the coming of our Lord, and that of His forerunner.

EMILY & SARAH APPLETON.

ANSWERS.

VI. (p. 108).

$$1. \text{ Let } x = \text{the number, then } \frac{x-46}{50} = \frac{4}{7} \text{ of } \frac{350}{4} = 50;$$

$$\therefore x - 46 = 2,500, \text{ and} \\ x = 2,546.$$

$$2. \text{ Let } x = \text{the number, then } 2x + 925 = \frac{11x}{5},$$

$$\therefore 2x - \frac{11x}{5} = -925, \text{ i.e., } \frac{x}{5} = 925, \text{ and} \\ x = 4,625.$$

$$3. \text{ (I have supposed that, in the April number, } \frac{11}{52}, \frac{3}{2}, \frac{19}{76} \text{ are} \\ \text{erroneously placed for } \frac{13}{52}, \frac{1}{2}, \frac{19}{76}).^* \text{ Then if } x = \text{the} \\ \text{number, } \left(\frac{13}{52} + \frac{1}{2} + \frac{19}{76} \right) x = 6,452, \\ \text{i.e., } x = 6,452.$$

$$4. \text{ Let } x = \text{the number, then } \frac{x}{2} = \frac{x}{16} + 2,303,$$

$$\therefore 8x = x + 36,848, \text{ i.e., } 7x = 36,848, \text{ and} \\ x = 5,264.$$

These numbers, 2546, 4625, 6452, 5264, placed in the form of addition, form a square in which every column of figures, whether vertical, horizontal, or diagonally, will give the number 17. J. SINCLAIR.

* This supposition is quite correct. We regret that we did not notice the typographical error in time to rectify it. The Proposer and a large number of correspondents have, during the month, called our attention to it. The following, however, discovered what was wrong, and have answered correctly.—ED.:—T. Mitchell, R. W. Eden, Richard Turner, Thomas E. Jones, William Young, James Rider, Quentin, H. Foot, Piccavi, Jack-at-a-pinch, John Nixon, Aaron Smith, A. Sturrock, N. J. Hobbs, John Petrie, and others.

Notes to Correspondents.

All Communications for the Editor should be addressed "The Editor of the Pupil-Teacher, 54, Paternoster Row, London, E.C."

METHOD OF ASKING OR ANSWERING QUESTIONS.—Our numerous correspondents would save us an immense amount of labour, and be less liable to disappointment from their communications not being promptly attended to, by attention to the following points:—

1. Write *only* on one side of the paper.
2. Keep each subject distinct from others.
3. *Head* each subject thus:—"Editor's Council," "Notes and Queries," "Editor's Questions," &c. &c.
4. Leave a space at the top and at the bottom of the paper.
5. Write your (real or assumed) name on each separate paper.
6. Always let your communications be accompanied by your name and address. For publication you may adopt any signature you please.

Thanks (for Contributions, Answers, kind Letters, &c.)—Annie; J. B. E.; Alphonso; George Newton; Jack-at-a-Pinch; Blanche; Alfred Morris; Diligens et Conant; W. A. Clarke; Thomas E. Jones; Mary W.; Richard Turner; Protestantism; Oxoniensis; Gonzalva; John Nixon; Maggie; Pro bono Publico; James Hewitson; Jas. Schofield; N. Sanderson; H. M. S.; Sapere Aude; T. Mitchell; Black Robin; Urban; Richard Haynes; C. T.; Charles Ashen; True Blue; R. W. Eden; Y-tri-Athran; George Mansell; A. Beginner; E. B. Loynd; James Gill; F. Brough; Taceo; Nelly; Pen; W. G. W.; Ich Dien; Duorp; Henry Grundy; D. A. Stuart; Mary Ann; James Lightfoot; M. B.; Ichabod; R. V.; William Sykes; William Millar; James Reid; P. Q.; Robin Hood; Taibach; Jessie; R. G. Roe; W. H. B.; Coniston; Quentin; S. Edwards; Silex; R. B.; James G. W.; F. D.; Antiquarian; Piccavi; Marden; William Young.

Received.—Geo. Richards; Mary Ann W.; T. F.; Eliza; R. W.; I. J. (No. 1); Wilmington; Thomas T.; H. C.; Michael Miller; H. Foot; Delta; A. W.; M. A. M.; Alfred T. Johnson; El-tio-Tomas; *Excelsior*; John H. Eustice; David Davidson; P. B.; James Rider; J. Coker; Cantor; Rufus; William Young, Elève; John Smith (Bristol); Adela; Charles Durrant; R. Fishendon; A. E. Freeman; Wm. Davey; Wm. Randell; R. A.; P. N. O.; Tna'snoq; Thos. L. Simpson; M. Mansell; Frank; Synonymous; John Nixon; Louis; John Petre; Coel; James Fenton; Troisième; Charles F. Redman; William A. Rothwell; Abram Sturrock; Henry Angel; C. H. Cressall; Inverbrothock; Benedict; Pitt; Lucilla; R. K. H.; One-and-All; Casa Bianca; Fergus Hill; Oliver Cromwell; Marianne; C. Lloyd; C. P. T.; J. Popplewell; Nemo; James Merkin; Essayez; Francis; T. Read; E. Cressall; Fred. Workman; J. B. E.; Annie (Margate); N. J. Hobbs; Anglo-Saxon; Sybella M.; F. G. Painter; Luguallum; Aaron Smith; F. Jones (Falmer); and many others.

Assumed Names—Hints. "A Pupil-teacher," (p. 101) who sent Phil. Query, No. 9, should assume some other *nom de plume*. We have dozens of communications with that signature every month. Those who in *Thanks* have their names italicised are thereby reminded that those signatures are appropriated. The additional names are nearly ready for publication.

Answers by Post.—We cannot undertake to send answers by post, even though a stamped envelope be enclosed to us.

Errata—Names.—P. 110, *Thanks*, second line, for James Ryder read James Rider; p. 95, last line but two, for E. B; Loynd, read E. B. Loynd; p. 110, column four, for Semaj Slig read Semaj Llig.

Errata—Philological Queries.—P. 101, Phil. Queries, for J., read 9. The figures 1—5 denote sections of the same exercise. As the misprint has occasioned misunderstanding, we keep back the papers sent to us, in order that the writers may amend them, and that others may compete.

Notes of a Lesson on Mountains, pp. 88, 89.—The signature of the Contributor BRUTUS was accidentally omitted.

ANSWERS TO CORRESPONDENTS.

Ports of Europe (F. Jones).—Had we received your paper one day sooner, we should have used it; however, it stands first on our list of additions, &c.

Assumed Names (T. E. J.)—In our list we have not given the names of those who do not adopt a *nom de plume*. At the end of the year, we hope to give a list of all who have contributed to Vol. III.

Dorking (C. C. H.)—Yes.

Writing (Charles I.)—Good. Capitals rather too stiff. Downward tendency of every line is the chief defect. Straight and equa-distant lines make many an inferior hand to yours appear superior. (*H. D.*)—Yes, creditably. (*T. H. B.*)—You may, but—well, never mind; “Try, try, try again.” (*F. B.*)—Fair; avoid writing words in detachments, thus “be s tow a fav our.” (*Inverbrothock*)—Stiff, but promising. (*Pompey*)—It must do, but try your utmost to improve it. (*Casa Bianca*)—Certainly not very bad. There was a certain old lady of nursery notoriety who had a son, a nice-looking lad, who was not very “good” nor yet very bad. (*W. R.*)—Much too stiff.

First Attempts—(*Alfred T. Johnson, aged 10 years*)—Well done, Alf. ! quite right; try again. (*William Young*)—Thank you! we shall be most happy to enter you on our list of friends. (*Jessie*)—We are much pleased with your answer, but you have written much more than was required; one word to each particular would be sufficient. Try to do without pencilled lines. (*Antiquarian*)—“Better late than never.” (*R. A.*)—Very well, indeed. Try “Notes and Queries,” or “Editor’s Exercises.” (*Thatsnoc*)—Successful. Your determination is very creditable to you. (*R. B.*)—Good.

Alum—(*D. T.*)—Sulphate of alumina.

Other Answers kept back for want of space.

THE TEACHER’S OFFICE.

DESIREST thou a Teacher’s care?

Ask wisdom from above,

It is a work of toil and thought,

Of patience and of love.

Alas! thou surely may’st expect

Some evils to endure.

For children’s faults are hard to bear,

And harder still to cure.

They may be wilful, proud, perverse,

In temper unsubdued;

In mind obtuse and ignorant;

In manners coarse and rude.

Thou may’st contend with sluggish minds,

Till weary and depressed;

And trace the winding of deceit,

In many a youthful breast.

If thou, from indolent neglect,

Shouldst leave their minds unsown;

Or shouldst their evil passions rouse,

By yielding to thine own:

Shouldst thou their kindlier feelings chill,

By apathy or scorn,

T’were good for them, and for thyself,

If thou hadst ne’er been born.

What joy, to see their youthful feet

In wisdom’s ways remain,

To know that by the grace of God,

Thy labour is not vain.

W. SYKES.

SUBSCRIPTIONS RECEIVED TO APRIL 26.

(The Numbers after the name indicate the last No. of the work paid for.)

Johnson, Jarrow, 36; Green, 36; Chapman, 36; Carruthers, 36; Irvine, 36; Thwaites, 39; Bailey (Trybridge), 39.

THE PUPIL-TEACHER.

PUNCTUATION.

IN every process it is a point of the utmost import to know when to pause and how to pause ; when to stop and how to stop. This proposition is, we think, so self-evident as to need no argumentative defence. Its applicability is universal, but, nevertheless, more apparent to some processes than to others. But to nothing does it apply with greater force than it does to written language. Punctuation, or pointing, is to written language—of which printing is but a peculiar method—what accents and emphases are to speech. Its importance in literary composition is nearly equal to that of the syntactical arrangement of words. Books and essays innumerable have been written on punctuation. This notwithstanding, were we asked to name one book or one essay that will enable the student to overcome the difficulties which the subject presents, we should candidly confess our inability to do so. The general rules for punctuating sentences are few and simple, and commonly known even to those who have received an education merely elementary.

It is an easy matter for anybody with a ready command of language to treat elaborately on the most trivial topic. As often, in social intercourse, those talk most who have the least to say, so, in literature, verbose disquisitions are, frequently, published by those who have but little sound information to impart. Let a popular individual hint that a work on any school-subject is required, and immediately a herd of scribblers rush into print, "to supply the *desideratum*." No sooner had Lord Palmerston expressed his views on the handwriting of elementary Teachers than pseudo professors of caligraphy appeared in all directions. Men whose handwriting was of the most meagre character put forth puffy advertisements announcing the facility and certainty of their method of teaching "Palmerstonian writing." Ungrammatically-written grammar-books are innumerable. It may be urged that some of the best theoretical moralists have been most notorious sensualists. Granted. The fact is instructive, but not pertinent to the subject now under our consideration. We should do as good moralists say ; but if their example be inconsistent with their precepts, we should not follow it. But even the precepts—the rules—of grammacists and punctuation-mongers are, in many cases, such as must be received with much caution, or altogether disregarded as worthless.

The faulty pointing which some who have written on punctuation attribute to standard authors is, in the majority of instances, the result of the ignorance of printers. Many of our best writers knew little and cared less about punctuation. It is, comparatively speaking, a modern invention, and it was long regarded as a printers' art. In Law writings the full-point is the only punctuation-mark used, even at the present time. Some one has observed that language was given to man to *disguise his thoughts*!

It might, with stricter propriety, be predicated that punctuation has done much to disguise the meaning of words which, without it, would precisely express the sense in which the authors used them. We question whether a variety of punctuation-marks is an advantage. Well-constructed sentences do not require high pointing to render them intelligible. A well-constructed sentence is a sentence so worded that its meaning is not only so clear that it can be understood, but also that it cannot be misunderstood. Such a sentence, however long, will not absolutely require any other stops than commas; other stops may with propriety be used, but they denote intonation rather than the proper duration of pauses in reading.

Absurd as is the old spelling-book method of teaching the uses of stops, it becomes positively ludicrous when employed, as it frequently is, by Teachers in elementary schools. We mean when the Teacher counts aloud as the pupils read, the canonical pause-units attributed to each stop. We have heard selections from the best authors, and even Holy Scripture, read in this way. We remember hearing the Fortieth Chapter of Genesis read thus:—

“When the chief baker saw that the interpretation was good *one!* he said unto Joseph *one!* I also was in my dream *one!* and *one!* behold *one!* I had three white baskets on my head *one, two, three!* And in the uppermost basket there was of all manner of bake meats for Pharaoh *one, two!* and the birds did eat them out of the basket upon my head *one, two, three, four!* And Joseph answered and said *one!* This is the interpretation thereof, *one, two, three!* The three baskets are three days *one, two, three!*”

We may here remark that in the “Original Tongues” from which the Holy Scriptures were translated, punctuation was unknown, and the translators’ pointing has occasioned no little controversy. In St. Paul’s Epistle to the Romans (ix. 5), we read:—

“Whose are the fathers, and of whom as concerning the flesh Christ came who is over all, God blessed for ever. Amen.”

This text is often quoted, by those who maintain the divinity of Christ, as an argument against Anti-Trinitarians, or Unitarians. But, unless other arguments could be urged concurrently with it, it would not be a very strong one. Learned and zealous Trinitarians have admitted that the original Greek is capable of other rendering. The comma after the word “all” might be substituted by a period. The text would then read thus:—

“Whose are the fathers, and of whom as concerning the flesh Christ came who is over all. God be blessed for ever! Amen.”

The original warrants this translation. It also warrants the following:—

“Whose are the fathers; and of whom, as concerning the flesh, Christ came. *He* who is over all, God, be blessed for ever! Amen.”

We have used *italics* in the same way as they are employed by the translators of the Bible. It will be perceived that whilst the generally-adopted punctuation asserts that Christ is God, either of the other two which might be adopted—after asserting that Christ came of St. Paul’s “kinsmen according to the flesh,”—appends an ascription of praise to God.

It has been suggested that in the original the words *θεός* (God) and *εὐλογετός* (blessed) should form a compound word, and that the true sense

is—Christ is God-blessed for ever. But no Greek scholar would, for a moment, entertain such an idea. We notice it merely to shew the difficulties which may arise from want of a system of punctuation.

The original Greek of St. Luke xxiii. 43, might be translated thus:—

“And Jesus said unto him, Verily, I say unto thee this day thou shalt be with me in paradise.”

Another comma is wanted. Those who hold that immediately the soul of a redeemed person separates from the body it enters paradise, maintain that a comma should be placed after the word “thee.” Those of the contrary opinion say that it should be placed after the word “day.”

To return. Few School Reading-books present specimens of model punctuation. There is not an orator or elocutionist who would, in reading any of the selections contained in them, make the pauses of the duration prescribed by those who regard points as mere stop-marks. One of the principal drawbacks on the advantages of cheap literature is, that the printers of it employ a large number of illiterate compositors, and “readers” whose attainments rarely reach mediocrity, and still more rarely exceed it. Many of the most pleasing writers of past generations were, and a large majority of those of the present age are, confessedly ignorant of the principles of punctuation. More than this, we may venture to affirm that punctuation has not yet been so systematised that we can expect much uniformity.

Should we then abandon the teaching of punctuation in our elementary schools?—Decidedly not. The next question which suggests itself is this, How should punctuation be taught?

We shall not venture to dogmatise on the subject. But we are sure that our readers will allow us to suggest a method which we believe will facilitate the teaching of the art.

We should ignore altogether, or bestow merely a passing notice on, the plan of counting mentally at each stop. We should set forth to the pupils the advantages of punctuation. This might be done in a very interesting way by an intelligent Teacher.

Let the pupils be told that the discovery of the art of printing led to a great increase of the number of readers, and that it was soon discovered that a system of pointing was necessary to prevent some printed sentences from being misconstrued. The first English printer, the celebrated William Caxton, wrote that “the craft of poynting, well used, maketh the sentence very light.” “Very light” may mean not only “very easy to read,” but also “very clear to be understood.”

Amongst the anecdotes which might be told in illustration of the importance of punctuation, that of the letter of Orleton, Bishop of Hereford, should not be forgotten. At the risk of being tedious we shall relate it, as all our readers may not have met with it. It is this:—When Maltravers and Gurney had custody of the unfortunate Edward II. at Berkeley Castle, they tried in every way to cause his death in such a manner that it might not seem to be the result of violence. His constitution was so good that, despite of his barbarous treatment, and even of repeated doses of poison, he appeared likely to live for years. Aware that his consort, the ‘She-wolf of France,’ desired his death, his relentless

keepers wrote to her Ministers for explicit instructions how to proceed. One of them, Orleton, Bishop of Hereford, replied in Latin, and so worded the most important part of it that it was either a direction to put Edward to death or an exhortation to refrain from such a deed. The words were :—

“Edvardum occidere nolite timere bonum est.”

Now, placing a comma after the word “timere,” the meaning would be :—

“Fear not to kill Edward, it is good (to do so).”

But placing a comma after the word “nolite,” the meaning would be :—

“Do not kill Edward, it is good to fear (to do so).”

As is well known the words were interpreted in the way in which the writer wished them to be.

Joe-Millarisms, when they are unexceptionable “to ears polite” and to the *point*, are not to be despised even in a lesson on “the craft of poynting.” A joke that everybody knows and nobody has forgotten must be very stale if not very good. There can, however, be no more harm in relating the following time-honoured joke than in reading, by way of illustration, one of Æsop’s fables. It will be new to some, especially as we present it.

The proprietor of an “Easy-Shaving-Shop” lettered his window thus :—

WHAT DO YOU THINK
I’LL SHAVE YOU FOR
NOTH ING AND GIVE
YOU SOME DRINK, J. B.

In walked an unshaven individual, took his seat, underwent the “easy” operation, and no doubt cogitated on the probable kind, quality, and quantity of the beverage indicated by the word “drink.” Great was his astonishment when, instead of being offered refreshment of some sort or other, he was asked for the usual fee for shaving. He pointed to the words in the window. “Well!” said the *Shaver*, “read them—What! do you think I’ll shave you for nothing,—and give you some drink?” The “*shaved*,” as may be supposed, had read them thus :—“What do you think! I’ll shave you for nothing, and give you some drink!”

Even nursery rhymes may sometimes be advantageously used to illustrate a lesson. Most of us are familiar with the following :—

“Every lady in this land has twenty nails upon each hand
Five and twenty on hands and feet, all this is true without deceit.”

This is a verbal “catch.” Punctuated properly it reads thus :

“Every lady in this land has twenty nails, upon each hand
Five, and twenty on hands and feet; all this is true without deceit.”

How amazed were we in those happy days when we were not bored with Lindley Murray and Latin declensions, when told that “Six dogs ran THROUGH BISHOPSGATE STREET WITHOUT TOUCHING THE STONES.” We were guiltless of a knowledge of London topography, of cognizance of the fact that there is Bishopsgate-street Without and Bishopsgate-street Within. And we had read no learned nonsense about the “craft

of poynting." It is easy to adduce numerous instances in which sentences have been, or may be, perverted by pointing, or by the omission of pointing.

Griffith's description of Cardinal Wolsey was, in the past generation, a choice "piece" in most School Reading-books. The punctuation of the Standard Editions of Shakespeare's "King Henry VIII." was followed, and the quotation commenced thus :—

" This Cardinal
Though from an humble stock, undoubtedly
Was fashioned to much honour. From his cradle
He was a scholar, and a ripe and good one."

Mr. Collier (now living) who has done more than any other writer to develop the long-hidden beauties of Shakespeare, by giving correct readings,—and this principally by improved pointing—says, "It is astonishing that so decided a blunder as to represent that the Cardinal was a ripe and good scholar '*from his cradle*,' should have been repeated over and over again from the year 1623 to our own day." Mr. Collier's reading, which is now generally adopted, is—

" This Cardinal
Though from an humble stock, undoubtedly
Was fashioned to much honour from his cradle.
He was a scholar, and a ripe and good one."

In an edition of Shakespeare's Henry VIII., just published, with "Critical, Historical, and Grammatical Notes," and adapted "specially for the guidance of persons qualifying for the Middle-Class Examinations,"* Mr. Collier's punctuation appears to be closely followed. We have not examined the book attentively, but it does not appear to us that the fact is acknowledged by the author. Indeed, in turning over the leaves at random, we have not even met with Mr. Collier's name, but the following passage in one of the "Notes" arrested our attention :—

"We have a similar instance of grammatical inaccuracy in Troilus and Cressida, Act I. Sc. 3, where Agamemnon says :—

'And may that soldier a mere recreant prove
That means not, hath not, or is not, in love.'"

Now, with profound respect for the unquestionable ability of the annotator, we submit that the "grammatical inaccuracy" disappears when the last comma in the second line is placed after "*in*," instead of after "*not*."

There is another oft-quoted passage from Shakespeare which was long marred by bad punctuation. It occurs in the "Merchant of Venice." Bassanio, in moralizing on the deceptiveness of external appearance, says (according to the old reading) :—

" Ornament is but the guiling shore
To a most dangerous sea; the beauteous scarf
Veiling an Indian beauty: in a word
The seeming truth that cunning times puts on
To entrap the wisest."

The cacophony, or rather the tautology, of "the beauteous scarf veiling

* See Notices of Books in the June number of the Pupil-Teacher.

an Indian beauty" must be apparent to the merest tyro in English composition. Moreover, it has been observed that the semicolon was not introduced into the English language until the year 1633, seventeen years after the death of the "Bard of Avon," and that, therefore, he could not have used it.

The blunders perpetrated by those who know nothing of punctuation are, like the items of a puffing linendraper's "Bankrupt's Stock"—Too numerous to mention.

" Delightful task to rear the tender thought
To teach the young idea to shoot Thomson "

is a familiar instance.

Having, by such examples as we have quoted, illustrated the importance of attention to punctuation, we recommend you to proceed to give the pupils *exercises* by reading to them passages in such a way as to afford them no clue whatever to the pointing. Never mind about *capitals*. That is, comparatively, an easy matter. Consider, for the time, that you are dealing with words simply *as* words. Direct the pupils to write them in the order in which you dictate them. Then give the following simple directions:—

I.—Commas and periods are the only stops necessary for the *ear*, all others are intended for the *eye*, to guide the reader in the intonation of the voice.

II.—A period, or its equivalent, a note of interrogation or a note of admiration, should be placed at the end of every complete sentence.

III.—Every sentence should commence with a capital letter.

IV.—Words in a sentence, unless likely to be misconstrued, should not be separated by any stops.

These rules are quite sufficient for a first lesson. We reserve remarks upon them for a future article.

To exemplify the method we propose, we submit one exercise:—

" Mr. Owen the Secretary a Welshman and a skilful harpist gave an entertainment on the following day Mr. Brown a portrait painter his nephew Mr. Edwards a clergyman Mr. Philips a Greek doctor John Harrison Miss Martha Green and John Stubbs Pupil-teachers and Members of the Philharmonic Society contributed to the amusements of the Association."

How many different ideas may be conveyed by the above collocation of words simply by various modes of pointing them!

I.—Who gave the entertainment?—One person, or two persons, or three, or four?—Let us see what we can make of it.

1. Mr. Owen, the Secretary, a Welshman, and a skilful harpist, gave, &c.

By this pointing it appears that the Secretary, whose name was Owen, was a Welshman, and that he was a skilful harpist. To make it apparent without altering the order of the words that Mr. Owen was not the only person who gave the entertainment, another kind of point must be introduced; but

Observe—the appropriate point—the semicolon—will indicate a certain inflexion in the voice of the reader if he read aloud; it will convey the

intended idea to his mind if he read "to himself." It has little or nothing to do with *time*.

2. Mr. Owen, the Secretary, a Welshman; and a skilful harpist, gave, &c.

Here it appears that Mr. Owen the Secretary was a Welshman, and that he and a skilful harpist, gave, &c.

3. Mr. Owen; the Secretary, a Welshman; and a skilful harpist, gave, &c.

By this punctuation three persons appear to have given the entertainment, namely Mr. Owen, the Secretary, and the harpist. By transposing the first two points it would appear that Mr. Owen was the Secretary, instead of that, the Secretary was a Welshman, and a distinct person from Mr. Owen.

4. Mr. Owen; the Secretary; a Welshman; and a skilful harpist, gave, &c.

Here it appears that there were four persons. Now, let the first and fourth readings be delivered alternately by the most fastidious musical timist; it will be found that the intonation, not the length of pause, marks the difference of sense. The same remarks apply equally to the other readings.

II.—Did Mr. Owen, &c., give the entertainment on the following day, or was it on the day following that on which the entertainment was given that the persons next mentioned "contributed," &c.?

1. Mr. Owen, &c., gave an entertainment on the following day. Mr. Brown, &c., contributed, &c.

Thus pointed, the words indicate that on the day following that on which certain transactions took place, Mr. Owen, &c., gave an entertainment. (And that) Mr. Brown, &c., contributed, &c.

2. Mr. Owen, &c., gave an entertainment. On the following day Mr. Brown &c.

Here it appears that on the day after the entertainment was given, the Associated had another treat, for Mr. Brown, &c., contributed, &c.

III.—Who were the persons who contributed to the amusements of the Association? How many persons contributed, &c.?

Take the following readings, and—*take your choice*.

1. Mr. Brown, a portrait painter, his nephew (query, whose nephew? Mr. Owen's, or Mr. Brown's?—This must necessarily depend on the previous pointing), Mr. Edwards, a clergyman, Mr. Philips, a Greek doctor, John Harrison, Miss Martha Green, and John Stubbs, the Pupil-teachers, and members of the Philharmonic Society, contributed, &c.

2. Mr. Brown, a portrait painter; his nephew, Mr. Edwards; a clergyman; Mr. Philips; a Greek; Dr. John Harrison; Miss Martha Green, and John Stubbs, the Pupil-teachers and members of the Philharmonic Society contributed, &c.

3. Mr. Brown; a portrait painter, his nephew; Mr. Edwards, a clergyman; Mr. Philips, a Greek doctor; John Harrison, Miss Martha Green, and John Stubbs, Pupil-teachers and members of the Philharmonic Society contributed.

4. Mr. Brown, a portrait painter; his nephew, Mr. Edwards, a clergyman; Mr. Philips, a Greek doctor; John Harrison, Miss Martha Green, and John Stubbs, Pupil-teachers and members of the Philharmonic Society contributed.

In the first reading the apparent meaning would not be affected by the substitution of semicolons for commas. By the first reading it appears that *eleven* persons, besides Pupil-teachers, and also members of the Phil-

harmonic Society contributed, &c. By the second reading we have *eight* persons besides the Pupil-teachers *and* the members, &c. By the *third* reading we have but *seven* persons; by the *fourth* reading only *six* persons! Of course other readings can be obtained by different punctuation. Those which we have given will suffice to explain how we should demonstrate the use of the points, of which, in the above exercise, we notice but three—namely, the comma, the semicolon, and the period.

We shall be glad to receive for publication in our pages, "Exercises on Punctuation." Preference will be given to those selected from well-known works or popular authors. Title of the work and number of the page whence each exercise is taken should be quoted.

Our remarks have extended considerably beyond the limits within which we proposed to confine ourselves, and we must crave the indulgence of those of our readers whose patience we have exhausted. The subject is, to us, an enticing one.

PERSPECTIVE SIMPLIFIED,
FOR PUPIL-TEACHERS AND OTHERS PREPARING FOR THE
GOVERNMENT EXAMINATIONS.

BY R. H. TURNER, HEAD MASTER OF THE CRANMER SCHOOLS, LIVERPOOL.

LESSON II.

LENGTH OF THE LINE OF DIRECTION.

OBSERVATION teaches us that the *angle of vision*, that is, the angle formed at our eye, by the rays of light coming from the extremities of the object in view, is not more than 60 degrees.



The Line of Direction bisects the visual angle. Then the point C, which is the point of sight, is in the centre of the line AB (Fig. 2), so when looking at any object, at whatever part we fix our point of sight, that point becomes a centre—the centre of a circle—a circle formed by the rays of light proceeding from the extreme parts of the object or objects in view, and this circle is the base of a *cone of rays*. Hence to find the length of the Line of Direction on your paper, take your compasses, and with the point of sight as a centre, and the distance from the centre to

the most distant corner of your picture as radius, describe a circle. Now extend the horizontal line until it meets the circumference at both ends. Then upon this diameter erect an equilateral triangle. The distance from the point of sight to the apex of the triangle will be the length of the Line of Direction. The following diagram will help you :—

Suppose 1, 2, 3, 4 (Fig. 3), to represent the size of your picture, P S, the Point of Sight, H L, the Horizontal Line—here, as already explained, a circle with P S 1 as a radius, is drawn—H L extended until it meets the circumference in points 5 and 6. Then upon line, 5—6, an equilateral triangle is erected, 5 S P 6, which gives the position of the Station Point S P, which was required. The Line of Direction must not be shorter than the line thus found. It may be longer. The angle of 60 degrees is the largest angle with which the eye can conveniently view an object. Sometimes an object may be viewed to better advantage with a less angle.

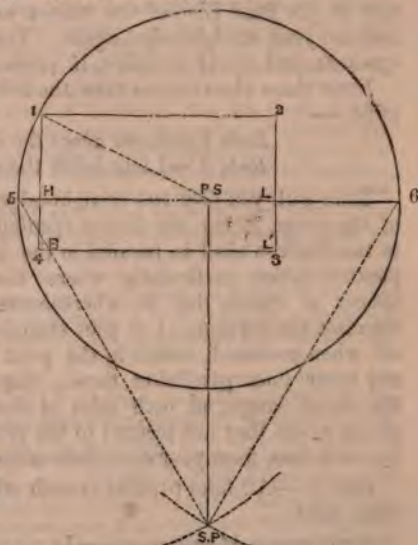


Fig. 3.

Beginners in perspective are sometimes puzzled with the different names given, by various authors, to the lines and points of construction. It may assist you a little, and save you some confusion when studying more extensive works, if some of these names are now given. Here are some of them :—

Fig. 3.—H L, "The Horizontal Line," is called the *Vanishing Line*.

B L, "The Base Line," is called the *Picture Line* and the *Ground Line*.

P S, S P, "The Line of Direction" is called the *Principal Visual Ray*, the *Axis of Vision*, and the *Perspective Centre*.

P S, "The Point of Sight," is called the *Centre of Vision* and the *Principal Vanishing Point*.

S P, "The Station Point," is called the *Visual Point*, and by some the *Point of Sight*.

The names we have adopted are those most commonly used. When speaking collectively of these lines and points, we shall call them the *Representative Lines and Points*.

Now take further observations out in the street. Look at the tops of the houses, and observe how they appear to run. Take a ruler or long straight-edge, and place it between your eye and the line bounding the top of the houses, and observe its direction. You will see that this line, if produced, would intersect the horizon. Observe the line bounding the

tops of the houses on the other side. This line, if produced, will do the same. Now look at any other lines above your eye, and place your straight-edge so as to coincide with them. You will find that all the lines *above* your eye incline *downwards* towards the horizon; and the higher the line is above your eye the greater is its inclination downwards. Look now at the Base Line of the houses, or the curbstones of the pavement, and use your straight-edge again. You will notice that these lines tend *upwards*, and would therefore, if produced, intersect the horizon.

From these observations take the following rules, which fix upon your mind :—

Rule 1.—Lines *above* the eye appear to *deseend*.

Rule 2.—Lines *below* the eye appear to *ascend*.

Take with you now two straight-edges, and stand exactly in the middle of the street, facing the distant opening, so that the line from your eye to the horizon shall be parallel to the lines of the houses. Keeping that position, notice particularly where the lines you have been observing appear to vanish, that is, whereabouts these lines, if produced, would intersect the horizon. Use your straight-edges and you will see that they all, when produced, vanish in the point opposite your eye. Now look at any other lines parallel to these. Supposing a line joining the tops of the street lamps, on both sides of the street, and another joining the places where they are secured to the ground. Notice these as before, and you will thus, from your own observation, learn this perspective rule.

Rule 3.—All lines parallel to each other, when produced, vanish in the same point.

Preparatory Measurements.—In an examination paper the scale of the drawing is usually given from which all the measurements are to be taken. If you are about to draw from an object, it will be necessary for you first of all to fix the scale of your drawing. In doing this you will be guided by the size of the object and the size of your paper. Then it will be needful that you be furnished with the vertical and horizontal measurements of the object, or, in other words, measurements of the different lengths, breadths, and heights. These you will obtain by means of your rule. If, however, you have not the object before you, you will require a *plan* and *elevation* of the object, drawn according to the scale of your intended sketch, or measurements given in words. A plan and an elevation of an object are both geometric sketches. Suppose you wished to make a perspective drawing of the house in which you reside, it would be necessary for you to furnish yourself with a basement plan, drawn according to scale. This would give you the horizontal measurements necessary. Then you would require an elevation of each of the sides of the house you desired to represent. These would give you the perpendicular measurements, or the sizes, shapes, and positions of the doors, windows, &c. If these could not be obtained it would be necessary to measure everything you intended to represent in your drawing. Every line in a perspective drawing should be obtained by measurement.

Editor's Exercises.

BIOGRAPHY.

2.—(Page 94).—ROBERT DEVEREUX, EARL OF ESSEX.

1. *Birth and Parentage.*—He was born in 1567, at Netherwood, in Herefordshire, and was the son of Walter, Earl of Essex.

2. *His Promotion to the Royal Favour.*—After his return from Holland, where he had behaved with bravery at the battle of Zutphen, he was made Master of the Horse, and rose rapidly in the estimation of Elizabeth. In 1596 he was appointed joint Commander with Lord Howard, in a powerful expedition against Spain, where he contributed to the capture of Cadiz.

In 1597 Essex was made Earl Marshal of England. On the death of that great statesman, Lord Burleigh, he succeeded him as Chancellor of Cambridge. About this time he had the imprudence to oppose Her Majesty with rudeness at a private council, on which she gave him a box on the ear. Instead of recollecting himself, and making the submissions due to her sex and station, the violent Earl instantly laid his hand on his sword, and swore he would not have taken such treatment even from her father; yet the Queen's partiality was so prevalent that she afterwards reinstated him in his former favour, and her kindness to him appeared rather to have acquired new force from this short interval of anger and resentment. The death of Burleigh, his rival, which happened about the same time, seemed to ensure him constant possession of the Queen's confidence; and nothing indeed but his own indiscretion could thenceforth have shaken his well-established credit.

3. *His disgrace and Insurrection.*—He had been appointed commander of an expedition against the Earl of Tyrone, who had raised a rebellion in Ireland, and Essex left London for Ireland, surrounded with the flower of the English nobility. But it ended in his ruin. Instead of attacking the enemy in their grand retreat in Ulster, he led his forces into the province of Munster, where he only exhausted his strength. At length he concluded an armistice with Tyrone, and there appeared afterwards some reason to suspect that he had carried on a very unjustifiable correspondence with the enemy. So unexpected an issue of an enterprise, the greatest and most expensive that Elizabeth had ever undertaken, provoked her extremely against Essex. He returned to England, contrary to the command of the Queen, upon which the anger of Elizabeth knew no bounds. She had placed him under restraint, and this restraint drove him into rebellion. He was joined by some noblemen and others, and the attempt to recover his ascendancy was made February 8, 1601; but it failed, and he and the Earl of Southampton were committed to the Tower.

4. *Trial and Execution.*—He was tried by the peers on the 19th of Feb. 1601, among whom were some of his enemies, so that his case seems to have been prejudged; but that he was guilty there could be no doubt. Little could be urged in his defence; his guilt was too flagrant, and though it deserved pity, it could not meet an acquittal. The Queen displayed much irresolution before she finally gave consent for his execution. She was provoked, it is said, because he did not produce a certain ring, which would have procured his safety and protection. This ring was actually sent to the Countess of Nottingham, who, being a concealed enemy to the Earl, never delivered it.

He was beheaded in an inner court of the Tower on the 25th of Feb., 1601, after which Elizabeth was never seen to enjoy one happy day more. The Earl of Essex was but 34 years of age when his rashness, imprudence, and violence, brought him to this untimely end.

5. *Character.*—He was endowed with many noble virtues, and was generous, sincere, affable, valiant, eloquent, and industrious; but in the latter period of his life he gave rein to his ungovernable passions, and involved not only himself but many of his friends in utter ruin.

Compiled from Hume, Goldsmith, and *Biog. Brit.*

SAPERE AUDE.

The nine next best papers are supplied by the following, whose names are placed in order of merit:—F. T. Read, One and All, Alfred Morris, James Fen-ton, James Gill, Henry Angel, Protestantism, Jean C., A Beginner.

BATTLES, &c., IN MARCH.

ARRANGED by the Editor from the *six* best lists:—James Rider (1); Ebenezer Turner (2); Henry Harris (3); William Rowe, M. T. (4); William Morley (5); James Fenton (6). * Denotes all; 7, Editor.

1st.

- 1562 Massacre at Vassy, 1, 3
 1575 Capture of Huy, 6
 1760 Capture of English vessels by the French, 2, 3
 1776 Mahratta War ended, 2, 3
 1779 Capture of Ionian Islands, 3 (see 1799)
 1793 General Clairfait attacks the French, 3
 1794 Battle of Werwick, 2, 3, 4
 1799 Capture of Ionian Islands by Russians and Turks, 1 (see 1779)
 1799 Jourdan crossed the Rhine, 5
 1804 Capture of Diamond Rock, 2
 1807 Passage of the Dardanelles, 1, 2, 3, 5
 1807 The "Glattan" v. Turkish ship, 2
 1807 Capitulation of Alexandria, 3
 1811 Massacre in Cairo, 5
 1811 Capture of Casa Viega, 6
 1813 War declared against Russia and Prussia by France, 1, 2
 1813 Defeat of Soult by Wellington, 3
 1814 Battle of Ayre, 3 (Capture of, 5)
 1815 Napoleon landed at Cannes, 2, 3, 5
 1821 Insurrection at Piedmont, 2
 1828 Tripolizzi destroyed and evacuated, 1, 2
 1828 Modon entered, 1, 2 (Turks arrive at Modena, 3)
 1828 Riots at Lisbon, 1, 2, 3
 1850 Blockade of Greece ended, 1
 1857 Insurrection at Pegu, 1
 1858 Capture of Fort of Baroda by Rose, and defeat of rebels by Macdonald, 1

2nd.

- 409 Siege of Rome by Alaric, 7
 1643 Battle of Lichfield, 1, 2, 3
 1797 Surrender of Soleure, 5
 1798 Battle of Friburg, 1, 2, 3, 5 (Bernese defeated by French, 6)
 1805 Battle of Ufzulghur, 2, 3
 1807 Repassage of the Dardanelles, 2, 3, 4
 1808 Surrender of the "Marie-Galante," 2
 1808 "Sappho" v. "Admiral Tawl," 2
 1808 Capture of Abo, 5
 1811 Capture of the "Olympia," 1
 1814 Capture of Soissons by Bulon, 1, 2, 3, 5
 1814 Battle of Ayre (continued) 3;
 Capture of Aire, 6)

- 1815 Cerenon entered, 2
 1816 Capture of Hurryhupore, 1, 2, 3, 5
 1828 Riots at Lisbon (2nd day), 1
 1828 Destruction of vessels at Scopelo by Miaulis, 1, 2
 1828 Surrender of Palamide, 1, 2
 1828 Battle of Sciathe, 2
 1841 Capture of the "Tigris" by the British, 1, 2
 1853 Suspension of Siege of Buenos Ayres, 1
 1853 Capture of Nankin, 3
 1858 Capture of Dil Koosha, 4
 1858 Siege of Lucknow began, 4

3rd.

- 1678 Siege of Ghent, 6
 1758 Battle of Lanenan, 1, 2, 3, 5
 1793 Siege of Maestrich raised, 3
 1794 Insurrection of the Poles, 5
 1795 Battle of Neve Munster, 3, 4
 1799 Capture of the "Leander" by Russians and Turks, 1, 2
 1799 Capture of Corfu, 2, 3 (by the Russians, 4)
 1801 War between Spain and Portugal, 1 (declared, 5)
 1807 Battle of Abydos, 2
 1810 Battle of Valencia, 5
 1813 Evacuation of Berlin, 3
 1813 Occupation of Hamburg, 3
 1813 Capture of Rostock, 3
 1814 Entry into Troyes by the British, 5
 1828 Riots at Lisbon (3rd day), 1
 1847 Riot at Wick, 1, 2, 3
 1848 Riots at Frankfort, 1
 1848 Commotions at Cologne, 2
 1854 Riot at Preston, 1
 1857 Evacuation of Moldavian capital by Austrians, 1
 1857 Persian War ended, 5
 1858 Capture of the Dilkoorsha Palace, Lucknow, 1
 1858 Battle of Mudinapore, 1; Mudendore Pass, 4
 1858 Sepoy attack on Barrackpore, 4

4th.

- 1461 Occupation of London by Edward IV., 1
 1471 Battle of Tewkesbury, 1, 2, 3, 5
 1665 War declared by England against the Dutch, 1, 2, 3
 1674 Battle (naval) in Tripoli Bay, 3, 4

- 1744 War declared by France against England, 1, 2, 3
 1759 War between the Nabob of Surat and one of the Siddees, 1, 2
 1776 Bombardment of Boston by the Americans, 1
 1779 French army crossed the Rhine, 3
 1793 Battle of Tongres, 2, 3, 4
 1796 Capture of the "Tholan," 1 (1797, 2)
 1796 Capture of the "Zealand" and of the "Brakel" by the British
 1797 Capture of the "Revolatie," 2
 1799 Passage of the Rhine by the French, 1, 2, 3
 1799 Passage of the Lech by the Arch-Duke Charles, 1, 2, 3
 1799 Attack on Jaffa, 6
 1806 Capture of the "Voluntaire" by the British, 1, 2
 1806 Occupation of the Cattaro by the Russians, 3
 1813 Entry of Cossacks into Berlin, 1, 2, 3, 5
 1814 Occupation of Troyes by the Allies, 1, 6
 1828 Riots at Lisbon (4th day), 1
 1833 Attack on Oporto, 1, 2
 1839 Peruvian war ended, 1
 1848 Insurrection at Munich, 1, 2, 3
 1848 Revolution at Baden, Milan, Nassau, and Wurtemberg, 1
 1849 Revolution in Florence, 1
 1850 Battle (naval) off Hong Kong, 1, 2, 3
 1850 War declared against Russia by Sardinia, 2
 1852 Capture of Delta of Danube by Omar Bey, 1
 1859 Defeat of rebels by Fordyce, 1
- 5th.
- 493 Capt. of Ravenna by Theodoric, 4
 1758 Capture of Surat by English, 1, 5
 1759 Capture of Surat by English, 2
 1762 Capture of Grenada, 1, 2, 3, 4
 1762 Capture of St. Lucia, 1, 2, 3, 4
 1770 Battle of Boston, 2, 3, 4
 1791 Occupation of Bangalore by the British, 1
 1794 Occupation of Fiorenza Bay, 2
 1795 Battle of Catalonia, 2, 3, (Catalonia, 4)
 1797 Mysore entered by Gen. Harris, 3
 1797 Battle of Berne, 5
 1798 Bernese again defeated by the French, 6
 1799 Defeat of France at Verona, 4
 1799 Attack on Jaffa (2nd day), 6
 1799 Mysore entered by Gen. Harris, 1, 2
- 1799 Battle of Seedasere, 1
 1800 "Phœbe" v. "Hureux," 2
 1804 Capture of the "Rose," 2
 1804 Holkar defended by Lake, 2
 1804 Battle (nav.) in Hayes Harbour,
 1805 Passage of Nevis Point, 2
 1805 Capture of Basse Terre, 2
 1810 Capture of Guadaloupe, 5
 1811 Retreat of French from Torres Vedras, 2 (to Mondego, 1), 3, 4
 1811 Battle of Barossa *
 1811 Evacuation of Santarem, 1, 2, 3
 1811 Battle of Tanti Pedri, 2
 1811 Battle of Zuago, 2
 1814 Battle of Craone, 5
 1814 War against Burmese, 3
 1815 Gass entered, 2
 1815 Riots in Westminster, 3
 1824 War declared against Burmese, 1, 2, 4 (1821, 6)
 1828 Riots at Lisbon, (5th day), 1 (suppressed 2)
 1828 Surrender of Albanitka, 1, 2
 1847 Riot at Liege, Verviers, 1, and East Flanders, 1
 1848 Revolution in Milan (2nd day), 1
 1849 Revolution in Florence (2nd day), 1
 1855 War declared by Sardinia against Russia, 1
 1858 Insurrection at Paris, 1
 1858 Battles of Gorumkapore, 1, 4, and Candoo Nudde, 4
 1858 Capture of Murrowra, 1
 1858 Defeat of rebels by Capt. Plowden, 4
- 6th.
- 1550 War between France and Scotland ended, 2
 1708 Defeat of French off Dunkirk, 1, 2, 3
 1714 War with France and Spain ended, 4
 1775 War declared by England against Bombay, 1
 1776 Americans and French driven from Canada, 1, 2, 3
 1781 Passage of the Almance, 2
 1781 Battle of Reedy Fork, 2
 1781 Gen. Green returned to Troublesome Creek, 2
 1790 Battle of Travancore, 1, 2
 1791 Siege of Bangalore, 1 (Ben, 2), 3
 1799 Relief of Acre, 2. By Sir S. Smith, 3, 4
 1799 Battle of Verona, 3
 1799 Capture of Jaffa, (and massacre), 5, 6
 1799 Capture of Luceinsteig, 6
 1799 Cap. of 2,000 Austrians to the French, 5

- 1806 Capture of the "Voluntaire," 2, 3
 1807 Capture of Alexandria, 6
 1808 "Piedmontaise," v. "San Fiorenza," 2, 3
 1810 Skirmishes with French, 3
 1811 Battle of Fuente d'Onore, 1
 1811 Battle of Santarem, 2
 1811 Battle of Santa-Maria, 2, 3
 1811 Retreat of Massena, 1, 3, 4 (see 5th)
 1813 League of Prussia and Russia against France, 1
 1815 Riots in London, 5
 1821 Insurrection in Wallachia and Moldavia, 1, 2, 3, 4
 1828 Capture of vessels at Skiatho by Miaulis, 1
 1839 Battle of Bolan Pass, 2, 3
 1841 War renewed against China, 1, 2
 1842 Evacuation of Ghuznee by British, 1, 2, 3
 1848 Riots in London and Glasgow, 1, 3
 1848 Revolution in Milan, 1
 1849 Revolution in Florence, 1
 1853 Insurrec. at Chalon-sur-Saone, 5
 1855 Battle of Canton, 1, 2, 3
 1855 Recapture of Shanghai, 1, 2, 3
 1858 Insurrection at Chalon-sur-Saone, 1, 2 (see 1853)
 1858 Passage of Gontee by Outram, 1, 4
 1858 Bombardment of Lucknow, 4
 7th.
 1812 Capture of Roxburgh, 6
 1672 War with the Dutch, 1, 3, 5
 1759 Occupation of Musulipatam, 2, 3
 1793 War declared by France against Spain, 1, 2, 3
 1793 Battle of Aix-la Chapelle, 2, 3, 5
 1795 Capture of the "Berwick," 2
 1796 Battle near Aix-la-Chapelle, 1
 1799 Battle of Periapatam, 2, 3
 1799 Battle of Coire, 2, 3, 4
 1799 Battle near Seringapatam, 3
 1801 S. of Aboukir, 4, (see 8th.)
 1806 Massacre of Belgrade garrison, 1
 1808 (see 6th.), 1, 3
 1814 Battles near Aire, 1, 2, 3
 1814 Attack on Pau, 1, 3
 1815 Recapture of the Levant, 2
 1815 "Constitution," and "Cyane" chased by British, 2
 1817 Capture of Hattrass, 5
 1828 Occupation of Spezziottes, 1, 2
 1828 Occupation of Hydriottes, 1, 2
 1848 Riots in London (2nd day), 1
 1858 Battle of Castilla, 1
 1858 Outram's forces attacked by the rebels, 4
 8th.
 1793 Return of French to Tirlemont, 3
 1795 Capture of French vessels, 2, 3, 4
 1796 Capture of Banda by the British, 1, 2, 3, 4
 1801 Invasion of Egypt, 1, 2, 3, 5, 6, (see 7th.)
 1804 Capture of Goree by the British, 1, 2, 3, 5, (see 9th.)
 1808 Capture of "La Piedmontaise," 1, 2, and "San Fiorenza," 2
 1814 Occupation of Bordeaux, 2, 3, 5
 1814 Bergen-op-Zoom stormed, 2, 3, 5, 6
 1858 Surrender of Lucknow, 1
 1858 Defeat of rebels by Outram, 1
 1858 Batt. of the Martiniere, 2, (see 9th.)
 9th.
 1678 Capture of Ghent, 6
 1740 Battles of Boca-Chita, 2, 3, and Tierra-Bomba, 2
 1758 Bombardment of Minden by the French, 1, 2, 3, 5
 1796 Capture of the "Nemeris," 1
 1797 Capture of the "Resistance" by the British, 1, 2
 1804 Capture of Goree, 4, (see 8th.)
 1807 Capture of the "Crafty," 1, 2
 1809 Passage of the Inn by the Austrians, 5
 1814 Battle of Bergen-op-Zoom, 1, 2
 1814 Battle of Laon, 1, 2, 3, 6
 1839 War between France and Mexico ended, 1 (1838, 2)
 1841 Conflagration on board the "Armisted," 1
 1853 Siege of Buenos Ayres renewed, 1
 1858 (see 8th.), 1, 2, 4
 10th.
 241 B.C. Defeat of Hanno by Romans, 1
 1648 Scotland in arms for Charles I., 2, 3
 1705 Siege of Gibraltar; Capture of French vessels, 1
 1793 Insurrection at La Vendée, 1, 5
 1796 Insurrection in Ireland, 1
 1799 Capture of Jaffa, 1, 2, 3, 4
 1808 Entry of Murat into Spain, 1, 2
 1811 Capture of Badajos
 1811 Battle of Pombal, 1, 2, 3
 1811 Capture of Almeida, 1, 2
 1814 Attack on Laon, 5 (see 9th)
 1820 Massacre at Cadiz, 1, 2
 1821 Revolution in Piedmont, 1, 2, 3, 4, 6
 1831 Entry of Austrians into Modena, 1, 2 (Mosen, 3)
 1838 War declared by Uruguay against Buenos Ayres, 2 (1839, 1)
 1839 (See 1838)
 1842 Battle of Chin-hae, 1, 2, and Ning-po attacked by the Chinese, 1, 2, 3
 1842 Battle of Candahar, 1, 2, 3

- 1857 Mutiny at Calcutta, 1
 1858 Capture of the Fort of Murowra, 1;
 Martinaire, 2; Banks' House stormed
 by the British near Lucknow, 1; Rose
 defeated the rebel Rajah, 4

11th.

- 1405 Battle of Monmouth, 4
 1597 Capture of Amiens by the Spanish,
 1, 2, 3
 1811 Capture of Badajos by Soult, 1, 2,
 3, 5
 1813 Entry of Ney into Besançon, 2, 3
 1845 Destruction of Kororaiika, 1, 2
 1858 Capture of the Martinaire, 2, 3
 (see 10th)
 1858 Capture of the Begum's Palace at
 Lucknow, 1, 4

12th

- 1470 Battle of Erpingham, 1, 2, 3, 5
 1683 Invasion of England by James II.,
 3, 4
 1689 Invasion of Ireland by James II.,
 1, 2, 3, 5
 1778 Capture of British ships by the
 French, 2, 3
 1795 Capture of Berwick, 3; Capture of
 Brunswick, 2
 1795 "Melampe" and "Inconstant"
 v. "Ca Ira," 2
 1797 Revolt at Bergamo, 5
 1801 Battle near Aboukir, 3 (see 1st)
 1803 Capture of Cutchowra, 1, 2
 1809 Battle of Lanhozo, 1, 2, 3, 5
 1811 Battle of Redinha, 1, 2, 3, 5
 1811 Battle of Coimbra, 1, 2
 1811 Capture of the "Challenger," 1
 1814 Entry of the British into Bordeaux,
 1, 2, 3
 1814 Battle of Aire (see 12th), and At-
 tack on Pau (see 7th) 2
 1814 Surrender of Rheims, 1, 2, 5
 1815 Battle of Lons le-Saulnier, 2
 1853 Surrender of Greytown, 1
 1854 Bombardment of Odessa, 4
 1858 The Kaiserbagh shelled (2nd d.), 1
 1858 Riot in Dublin, 1, 5

13th.

- 1470 Battle of Stamford, 1, 2, 3, 4 (see
 14th)
 1509 Battle of Jarnac, 1, 2, 3
 1648 Rising of Royalists in Wales, 1
 1671 War between English and Dutch,
 1, 2, 3
 1707 Siege of Villena, 3
 1708 Capture of the "Salisbury," in the
 Frith of Forth, 6
 1740 Attack on Chagre, 6 (same, 14th)
 1778 War between England & France, 1

- 1781 Relief of Gibraltar by Darby, 4
 1793 "Scourge" engaged "Sans Cu-
 lottes," 2
 1795 Defeat of French by Nelson, 2, 3,
 5, 6
 1796 Capture of "Unité," 2, 3
 1797 The "Viper" engaged "La Virgin-
 Marie," 2, 3
 1801 Battle in Egypt, 2, 3, 5
 1806 Capture of Linois and his ships
 by Warren, 1, 2, 3, 4
 1806 Capture of the "Marengo," 1, 2,
 3, 5, and "Belle Poule," by the Bri-
 tish, 2, 3, 5
 1808 The "Emerald" attacked in Vi-
 vero Harbour, 2, 3
 1808 Murat entered Burgos, 5
 1809 Capture of Oporto by the French,
 1, 2, 3, 5
 1811 Battle off Lissa, 1, 2, 3
 1813 Battle of Vittoria, 2, 3
 1814 Recapture of Rheims, 5
 1828 Relief of Scio by Tahir Pacha, 1,
 2, 3
 1848 Revolution in Vienna, 1, 2, 3
 1853 Riots in Yeadon, 1
 1854 War declared by France against
 Russia, 1
 1855 Novarussia attacked, 3
 1858 British Victories in India, 1
 1859 Defeat of Pirates at Macao, 1

14th.

- 1312 Capture of Edinburgh, 6
 1368 Defeat of Henry de Trastamare
 by Du Gueselin, 1
 1369 Battle of Montiel, 1, 3
 1470 Battle of Stamford, 3 (see 13th)
 1471 Invasion of England by Edward
 IV., 1, 2, 3
 1589 Siege of Paris by Henry IV., 1
 1590 Battle of Ivry, 1, 3
 1671 Capture of Dutch East India ships
 by English, 1, 2, 3 (1671-2; 4)
 1672 Attack on Dutch Smyrna fleet by
 the English, 1, 3
 1674 Battle in Tripoli Bay, 2
 1690 French land in Ireland, 1, 2, 3
 1740 (See 13th)
 1757 Capture of Chandernagore, 1, 2, 3
 1758 Capture of Minden by the French,
 1, 2, 3, 5
 1781 Passage of Dan, 2, 3
 1781 Capture of Demerara and Esse-
 quibo, 2, 3
 1795 Defeat of the French fleet off
 Savona by Hotham, 1, 2, 3, 4.
 1799 Battle of Stockach, 3, 4, 5
 1799 Return of Tippoo Saib to Seringa-
 patam, 1, 2, 3
 1806 Battle of Stockach, 2

- 1808 Childers engages Longen, 2
 1848 (Same as 18th) 1, 2, 3
 1849 Surrender of Shere-Sing, 1, 2, 3, 5.
 Mutiny at Peshawar quelled, 1, 3
 1849 War declared against Austria by
 Sardinia, 1, 2, 3
 1858 English victories at Lucknow, 1,
 2, 4
 1859 (Same as 13th)

15th.

- 1359 Winchelsea stormed by the Nor-
 mans, 1, 5
 1671 Victory of English over Dutch, 1, 2
 1740 Capture of Chagre, 6
 1781 Battle of Guilford (Am.), 1, 2, 3, 5
 1781 Battle of Cowpens, 1, 2. Battle
 of Martinville, 6
 1792 Defeat of Tippoo-Saib by Corn-
 wallis, 3
 1793 Battle (*nav.*) off Willemstadt, 1
 1793 Capture of French Fleet, 1
 1793 Willemstadt entered, 2
 1797 Passage of the Tagliamonta, 2
 (see 16th)
 1801 Battle of Alexandria (1st) 2
 1804 Surrender of the Duc d'En-
 ghien, 1
 1805 French Fleet left Toulon for West
 Indies, 2, 3, 4
 1808 "Terpsichore" v "Samilante," 2, 3
 1811 Battle of Fons de Arronce, 1, 2, 3
 1811 Battle near Santarem, 2
 1814 Chalons re-entered, 2, 3
 1816 Defeat of the Nepaulese, 1, 2, 3
 1828 Scio evacuated by the Greeks, 1, 2
 1829 Battle of Kintishi, 1, 2
 1842 Battle of Tozeke, 1, 2
 1851 Battle of Senaar, 2
 1858 Battle of Imambarrah, 2
 1858 Capture of Lucknow, 4, 6

16th.

- 1322 Battle of Boroughbridge, 2, 3
 1569 Battle of Jarnac, 6
 1671 Defeat of Dutch fleet, 2 (see
 15th)
 1746 Battle of Culloden, 2
 1756 Capture of Angria, 2
 1781 Battles of Guilford, (2nd day, 1,
 2, 3) 4; Hobkirk's Hill, 2, 4; Entau
 Springs, 2, 4; and off Cape Virginia, 2
 1794 Capture of Martinique, 1, 2, 3
 1797 Battle of Tagliamonta, 1, 2, 4
 (Passage, 3, 5)
 1799 Capture of French flotilla, 1, 2
 Naval battle off Cape Carmel, 3;
 French besieged Acre, 5; Relief of
 Acre by Smith, 1
 1812 Occupation of Badajos, *
 1812 Passage of the Guadiana, 1

- 1838 Battle and Capture of Bahia, 1, 2, 3
 1851 Riot at Drontheim, 1, 2

17th.

- 45 B.C. Capture of Munda (Sp.) 1, 2, 3
 1190 Capture of York, and Massacre, 6
 1567 Battle of Carberry Hill, 6
 1642 Capture of Lowestoft, 6
 1643 Battle of Ross (Ireland), 4
 1671 War declared by England against
 Dutch, 2
 1672 War declared by English against
 Dutch, 1, 2, 3
 1708 Invasion of English by the Pre-
 tender, 2, 3, 4
 1715 Invasion of England by the Pre-
 tender, 2, 3 (1815, 3)
 1776 Evacuation of Boston by the
 British, 1, 2, 3, 5
 1794 Bombardment of St. Louis, 1, 2, 3
 (see 16th)
 1796 Battle of Hergui, 2, 3 (naval bat-
 tle off Mergui, 6)
 1797 Caffa entered, 2, 3
 1799 Battle of Mount Carmel, 2, 3, 6
 (see 16th)
 1800 Defeat of Turks by Kleber, 2, 3
 1800 Capture of the "Denae," 1, 2, 3
 1807 Occupation of Alexandria by the
 British, 1, 2, 4
 1808 Riots at Madrid and Aranjuez,
 1, 2, 3, 4
 1811 Passage of the Ceira, 1, 2, 3
 1812 Occupation of Badajos, 1, 2, 5
 1848 Revolution in Milan, 1, 2, 3
 1849 Attock evacuated, 1, 3
 1854 French defeated Russians, 1, 2, 3
 1858 Capture of Chundaere, 1, 4

18th.

- 1776 Boston-neck entered, 2, 3
 1793 Battle of Neerwinden, 1, 2, 3, 5, 6
 1793 Brussels evacuated, 1, 2, 3
 1793 Battle of Jurvienden, 2, 3, 4
 1793 Battle of Landon, 6
 1794 St. Lois cannonaded, 2
 1795 Battle of Neve Munster, 3, 4
 1799 "Telegraph" v. "Hirondelle," 2
 1799 Siege of Acre, 1, 3
 1799 Capture of Jaffa by French, 1
 1800 Defeat of the Turks by Kleber, 2, 3
 1807 British landed at Alexandria,
 1, 2, 4
 1808 Riots at Madrid and Aranjuez,
 1, 2, 3, 4
 1812 Siege of Badajoz, 2, 3
 1813 Battle of Hamburg, 5, 6
 1814 Vic Bigorre entered, 1, 2
 1814 Retreat of Soult, 1
 1814 Battle of Lembige, 6
 1828 Blockade of Candia, 2

- 1828 Blockade of Modon, 1, 2
- 1828 Blockade of Caron, 1, 2
- 1828 Blockade of Navarin, 1, 2
- 1841 Capture of Amoy, 1, 3
- 1848 Insurrection at Milan, 1, 2, 3, 5
- 1848 Conflicts at Berlin, 1, 2, 3
- 1853 Capture of Amoy, 1, 2, 3
- 1858 Battle near Aden, 1

19th.

- 1563 Siege of Orleans terminated, 1
- 1643 Battle of Hopton Heath, 3, 4
(Salthearth, 1)
- 1649 Surrender of Pontefract Castle, 7
- 1779 Capture of Mahe, 1 (1780, 2)
- 1793 Defeat of Tippoo Sahib, 1, 2
- 1793 Battle of Thirlemont, 2, 4
- 1794 Attack on Forts in Martinique,
1, 2, 3
- 1794 Battle of Bayonne, 2, 3, 4
- 1797 Trieste entered by the French, 5
- 1799 Siege of Acre raised, 1, 3 (see 18th)
- 1799 Mysore entered, 2
- 1799 Defeat of Tippoo Sahib, 2
- 1801 Aboukir capitulated, 2
- 1808 Insurrection in Aranjuez and
Madrid, 1, 2, 3, 4
- 1810 Battle of Barba del Puerco, 2, 3, 6
- 1812 Sortie on Badajos, 6
- 1814 Battle of the Aube, 1
- 1814 Battle of Vic Bigorre, 1, 6
- 1814 Battle of Acri, 2
- 1815 Insurrection in Servia, 1
- 1831 Insurrection in Cadiz, 1, 2, 3
- 1848 Revolt in Parma, 1, 2, 3
- 1848 Conflicts in Milan, 2
- 1851 Defeat of Pacha of Bagdad's
troops, 1
- 1853 Battle of Donahew, 1
- 1858 Capture of Moosal Bagh, 1, 2, 4
- 1858 Capture of Lucknow, 1, 5

20th.

- 268 Aureolus besieged by Romans, 3
- 275 Attack on Persia by Aurelian, 1, 3
(271, 2)
- 1281 Massacre of French in Sicily, 2
- 1588 Spanish Armada routed, 4
- 1759 Battle of Moorshedabad, 2, 3
- 1764 War declared against Great
Britain by France, 3
- 1780 Passage of Charlestown Bar, 2, 3
- 1794 War declared by France against
England, 1
- 1794 Capture of St. Fiorenzi, 2, 3
- 1794 Capture of Farnelli, 2, 3
- 1794 Capture of Fort Royal, 1, 2
- 1794 Capture of St. Lois, 2
- 1796 Sir J. B. Warren *v.* French fleet
in Channel, 2, 3
- 1799 Capture of Florence, 3

- 1799 Siege of Acre raised, 1, 2, 3, 4 (see
also 18th and 19th)
- 1799 Capture of Funstermunster, 6
- 1799 Battle of Osterach, 6
- 1800 Battle of Heliopolis, 1, 4, 5
- 1800 Turks driven into Egypt, 1, 3
- 1801 Capture of St. Bartholomew, 1, 2,
3, 4
- 1805 "Renard" attacked "General
Ernouf," 2
- 1807 Capitulation of Alexandria, 1, 2
- 1808 "Semilante" and "Terpsichord," 2
- 1809 Battle of Braza, 5
- 1810 Battles of Arcis-sur-Ache, Limo-
net, Tarbes, 5
- 1811 Capture of St. Bartholomew, 2
- 1814 Battle of Tarbes, 1, 6
- 1814 Defeat of Soult
- 1815 Capture of the "Cyane" and the
"Levant," 1
- 1829 Capture of Sizepole, 1, 2
- 1831 Insurrection in Antigua, 1, 2
- 1850 Massacre of British by Alfredis, 1
- 1854 Attack on Shanghai, 1, 2 (1853,
3)
- 1858 Thansi invested, 4

21st.

- 1084 Capture of Rome, 1, 3
- 1282 Massacre of French in Sicily, 1
- 1614 Battle of Stow-in-the-Wold, 1 (see
1646)
- 1646 Battle of Stow-in-the-Wold, 2, 3,
4, 6 (see 1644)
- 1761 Capture of the "Hermione," 2, 3
(1762, 4)
- 1791 Capture of Bungalore, 1, 2, 3
- 1795 Conflicts in Paris, 1
- 1796 Leogano invested, 2
- 1799 Battle of Osterach (2nd day), 6
- 1799 Joppa stormed, 3
- 1801 Battle of Alexandria, 1, 2, 3, 4, 6
- 1801 Battle of Canopus, 1, 2, 3, 5
- 1801 Tuscany conquered, 1
- 1807 Alexandria taken, 2 (see 20th)
- 1807 Capture of Cretin, 2
- 1807 Capture of Cafarille, 2
- 1811 Celorico entered, 1
- 1814 Rheims retaken, 1
- 1814 Battle of Tarbes, 2, 3
- 1814 Capture of Wurzburg, 5
- 1821 Revolution in Greece, 1
- 1849 Passage of the Ticino, 1, 2, 3
- 1849 Montara occupied, 1, 2
- 1849 Battle of Vercelli, 1, 2, 3
- 1853 Capture of Nankin, 1, 2, 3
- 1858 Siege of Lucknow terminated, 1, 4
- 1858 Battle of Azimghur, 1

22nd.

- 1282 Capture of Hawarden, 6
- 1121 Battle of Beaulieu, 1, 2, 3, 4

- 1644 Battle of Newark, 4
- 1740 Capture of Porto Bello, 1, 2, 3, 4
- 1757 Chandernagore besieged, 2
- 1793 Battle of Lovains, 2, 3, 4, 6
- 1794 Battle of Perle, 2, 3, 4
- 1799 War declared by France against Austria and Tuscany, 1, 3
- 1799 Battle of Stockach, 1, 2, 3
- 1808 Stately v. Prince Christian Frederick, 1, 2, 3
- 1808 Battle (naval) off Jutland, 2
- 1808 St. Fiorenzi v. Piedmontaise, 2, 3
- 1810 Capture of Santa Maura, 2, 3
- 1815 The Pope driven from Rome by Murat, 1
- 1847 Vera Cruz bombarded, 1, 2
- 1848 Revolution at Venice, 1, 3
- 1848 Revolution in Milan, 1, 2
- 1855 Sortie from Sebastopol, 1, 2, 3
- 1858 Fatal Riot at Antigua, 1

23rd.

- 1208 England interdicted, 5
- 1369 Battle of Montiel, 1
- 1529 Passage of Danube forced, 6
- 1529 Surrender of Bratulow, Galatz, and Ismael, 6
- 1643 Battle near Gloucester, 1, 2, 3
- 1657 War with Spain, 1
- 1757 Battle of Chandernagore, 4
- 1777 Battle of Peekskill, 1, 2
- 1794 Capture of Martinico, 2, 3, 4, 6
- 1795 Defeat of French by Hotham, 1
- 1800 Captain Dixon v. "Guillaume Tell," 2, 3
- 1803 War with France, 1
- 1808 Capture of Madrid by the French, 1, 2, 3, 4, 5
- 1811 Battle of Lissa, 6
- 1814 Capture of Penguin, 1, 2, 3
- 1841 Insurrection at Marseilles, 1, 2, 3
- 1847 Siege of Vera Cruz, 1
- 1848 Conflicts at Milan, 1, 2
- 1849 Battle of Novara, 1, 2, 3, 4, 6
- 1849 Insurrection at Brescia, 1, 3
- 1854 Dubrodscha entered by Russians, 1, 2, 3
- 1854 Passage of the Danube, 1, 2
- 1854 Battle of Oltenitza, 1
- 1857 Capture of Mohammerah, 1
- 1858 Battle of Karee, 1

24th.

- 1760 Capture of English vessels by the French, 2
- 1782 Defeat of General Haddy, 2
- 1784 American War ended, 2
- 1793 King of Prussia crossed Rhine, 5
- 1794 Cracow occupied, 1, 2, 3 (1795, 6)
- 1797 Capture of Trieste, 1, 3 (25th, 6)
- 1799 Capture of Florence, 2, 3

- 1801 St. Martin surrendered, 2
- 1804 Capture of the "Wolverine," 1, 2
- 1808 Madrid entered, 1, 2, 3
- 1810 War between France and Sweden, 1
- 1812 War between Austria and Russia, 1
- 1833 Oporto assaulted, 1, 2
- 1839 Outbreak of hostilities at Canton, 1
- 1843 Battle of Meanee, 1
- 1843 Battle of Dubba, 1, 2, 3
- 1847 Siege of Vera Cruz (2nd day) 1
- 1858 Oude invested by British troops, 4

25th.

- 1519 Battle of Tabasco, 1
- 1644 Latham House relieved, 1
- 1781 Battle of Guildford, 2
- 1794 Capture of Martinique, 2, 3, 4
- 1799 French defeated at Verona, 4
- 1799 Battle of Stockach, 6
- 1799 Florence occupied by the French, 2
- 1808 Capture of the "Egyptienne," 2
- 1809 Surrender of Chanes, 1, 3
- 1811 Celorica abandoned, 1, 2, 3
- 1811 Battle (naval) off Cape Barfleur, 2, 3
- 1812 Capture of the "Picurina," 1, 2, 3, 6
- 1812 Badajoz attacked, 2
- 1814 Battle of Fere Champanoise, 1, 2, 3, 5, 6
- 1821 Revolution in Greece, 1, 2, 3, 4, 6
- 1848 Revolution in Holstein, 1, 2, 3
- 1849 Capture of Vercelli, 1, 2
- 1849 Novara occupied, 1, 2
- 1849 Capture of Trino, 1, 2
- 1858 Caraccas entered by Castro, 1
- 1858 Battle of Chuckerderpore, 4
- 1859 Battle of Simmer, 1

26th.

- 1199 A Guienne Baron rebels against Richard I., 1, 2, 3, 4
- 1350 Siege of Gibraltar, 1
- 1799 Battle of Verona, 2, 4, 5
- 1799 Battle of Stockach, 2, 3, 4, 6
- 1799 Passage of the Adda, 2, 3, 4
- 1799 Capture of Rivoli, 2
- 1806 Defeat of the French by Captain Ross, 2, 3
- 1813 Dresden entered by Russians, 5
- 1814 Capture of "La Sultane," 1, 2, 3
- 1814 "Hebrus" v. "L'Etiole," 2, 3 (27th 1)
- 1821 Siege of Badajoz, 1
- 1821 Revolt at Bologna, 1
- 1831 Revolt at Parma, 1
- 1831 Revolt at Modena, 1
- 1832 Italian revolts suppressed, 2
- 1848 Insurrection at Madrid, 1, 2, 3
- 1849 Insurrection in Sicily, 1, 2
- 1853 Riot at Blackburn, 1
- 1857 Capture of Mohammerah, 1, 2, 3, 5 (27th 4)

1859 Rebels defeated by Kelly, 1

27th.

1778 War declared against France, 1

1799 Battle of Malavelly, 2, 3, 6

1801 Passage of the Sound, 3

1802 Termination of war with France, 4

1809 Surrender of Ciudad Real, 1, 2, 3, 5, 6

1809 Capture of Vigo, 1, 2, 3, 5

1809 Battle of Medellin, 3

1809 Battle of Merida, 6

1811 Danes defeated, 1, 2, 3, 5

1811 Battle of Anholt, 2, 3

1812 Battle (naval) off Dieppe 2, 3

1814 Coulommieres entered by Allies, 1

1814 Toulouse invested, 1, 2, 5

1848 Milan entered, 1, 3

1854 France declared war against Russia, 1, 2, 3, 4, 5

28th.

1650 Siege of Clonmel and Kilkenny, 6

1757 Capture of Chandernagore, 1, 2, 3

1758 Battle (naval) off Carthage, 1, 2, 3

1758 "Melampe v. "Denae," 2, 3

1793 Battle of Neerwinden, 6

1794 Battle of Cateau, 2, 3, 4

1799 Battle of Verona, 1, 3

1801 Capture of St. Thomas, 1, 2, 3, 4

1809 Battle of Medellin, 1, 2, 3, 5, 6

1812 Sortie on Badajoz, 2

1814 Capture of the "Essex," 1, 2, 3

1815 War between France and Austria, 1, 2

1847 Vera Cruz bombarded, 1, 2

1849 Palermo attacked, 1, 3

1854 War declared against Russia, 1, 2, 3, 4

1857 Riots at Kidderminster, 1, 5

1859 Riots at Galway, 2

29th.

403 Battle of Poltenta, 1, 3

1461 Battle of Towton, *

1643 Battle of Bramham Moor, 1, 2, 3, 4

1643 Battle of Hopton Heath, 1, 2, 3

1643 Battle of Ross, 2

1644 Battle of Cheriton Down, 1, 2, 3, 4

1644 Battle of Alresford, 2, 3, 4

1769 Madras invested, 5

1780 Passage of the Ashley, 2

1796 Vendee war stopped, 3

1797 Occupation of Klagenfurt, 1, 3

1801 Hamburg taken, 1, 2

1809 Battle of Oporto, 1, 2, 3, 5, 6

1811 Retreat of Massena, 1, 2, 3

1814 Paris invested, 1, 2, 3, 5

1814 Capture of the "Essex," 1, 3

1814 Battle of Montmaitre, 2, 3

1828 British evacuate Portugal, 1

1847 Capture of Vera Cruz, 1, 2

1848 Fr. def. in Belgium, 1, 2, 3

1849 Punjab annexed, 5

1854 Insurrection at Barcelona, 1, 2, 3

1859 Riots at Galway, 1, 3 (see 28th)

30th.

1199 Battle of Chaluz, 2

1209 Massacre at Cullen's Wood, 1, 2, 3

1223 Termination of war with Scotland, 4

1282 Revolution in Sicily, 1

1296 Capture of Berwick, 1, 2, 3, 5, 6

1342 Capture of Roxburgh, 6

1405 Capture of Prince James of Scotland, 1, 2, 3

1793 Ostend taken, 1, 5

1799 Assault upon Acre, 1, 2, 3

1799 Damietta assaulted, 2, 3

1800 Capture of the "Guillaume Tell," 1

1800 "Penelope" v. "La Valette," 2, 3

1801 Capture of Dan, West India Isles, 1, 2, 3

1801 Capture of Swedish West India Isles, 1, 2, 3

1801 Passage of the Sound forced, 1, 2, 3, 4

1806 Venetian States surrender, 1

1808 Occupation of Sicily, 1, 2

1814 Capture of Custin, 5

1814 Battle of Paris, 1, 2, 3

1814 Battle of Montmaitre, 1, 3 (see 29th)

1831 Battle of Warsaw, 6

1849 Capture of Brescia by Haynau, 1, 2, 3

1850 Brescia bombarded, 1

1857 Mutiny at Chinsurah, 1, 2

1858 Capture of Kotah, 1, 4

31st.

1447 Genoa besieged, 2 (1747, 1; 1767, 3)

1744 War declared against France, 1, 2, 3, 4, 5

1744 Capture of Prague, 5

1795 Battle of Neve Minster, 2

1799 Leghorn entered, 2

1799 French defeated near Adda, 3, 4

1800 "Foudroyant" v. "Guillaume Tell," 2, 3

1801 Capture of St. Croix, 1, 2, 4

1801 Santa Cruz surrendered, 2

1807 Battle of Rosetta, 1, 2, 5

1807 Capture of the "Ferretter," 1, 2

1812 Batteries opened on Badajoz, 2

1814 Surrender of Paris, 1, 2, 3, 4, 6

1815 Battle of Rosetta (2nd) 2, 3

1831 Insurrection at Antwerp, 1

1831 Battle of Wawz, 1, 2, 3, 4, 6

1857 Mutiny at Barrackpore, 1, 2

Notes and Queries.

. We wish it to be distinctly understood that we do not guarantee that all the notes, replies, &c., are correct. Criticisms on lessons, parsing, &c., are requested. The Subscribers to the "Pupil-Teacher" should consider themselves as members of a Mutual Improvement Society, and regard our periodical as their medium of intercommunication.

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In sending answers, merely refer to the number and page thus:—"Mathem. No. —, p. —;" "Philol. No. —, p. —;" "Miscell. No. —, p. —."

N.B.—The number refers to the *query*, not to the "Pupil-Teacher."

PHILOLOGICAL :—QUERIES, &c.

11. (W. BOWERS).—Paraphrase, parsing the words in *italics*, the following:—

Breatheth there the man, with soul so dead,

Who never to himself hath said,

This is my own, my native land!

Whose heart hath ne'er within him burned,

As *home* his footsteps he *hath* turned

From wandering on a foreign stand!

If *such* there breathe, go, mark him well;

For him no minstrel raptures swell;

High though his titles, *proud* his name,

Boundless his wealth as *wish* can claim;

Despite *those* titles, power, and *self*,

The wretch, concentered *all* in self,

Living, shall forfeit fair renown,

And, *doubly dying*, shall go down

To the vile dust, from *whence* he sprung,

Unwept, unhonoured, and unsung.

—*Scott's Lay of the Last Minstrel.*

MATHEMATICS :—SOLUTIONS.

26. (Pp. 102 and 131).—The solution on page 131 of the *Pupil-Teacher* is not complete. To correct a misprint I shall begin at line 10.

$$h^2 - 2h\left(\frac{6}{p}\right)^{\frac{1}{2}} + \left(\frac{6}{p}\right)^{\frac{3}{2}} = 0$$

A square and by extraction.

$$h = \left(\frac{6}{p}\right)^{\frac{1}{2}}$$

Substituting this value of h in (a), we get

$$D = 2\left(\frac{6}{p}\right)^{\frac{3}{2}}$$

Therefore $h = \frac{1}{2} D$.

Consequently a hemisphere will be immersed. This result is general; for if the solidity immersed = c , we may find similarly, or by the diff. calculus, that

$$h = \left(\frac{c}{4p}\right)^{\frac{1}{2}}$$

$$D = 2\left(\frac{c}{4p}\right)^{\frac{1}{2}}$$

W. G. W.

EXAMINATION OF CANDIDATES FOR QUEEN'S SCHOLARSHIPS.—
CHRISTMAS, 1859.

(Concluded from page 136.)

DOMESTIC ECONOMY.

Three hours allowed for this Paper.

N.B. Do not answer more than one question in each Section.

SECTION I.

1. Describe, step by step, the processes of *washing—ironing—drying*. Mention common faults, and give practical rules.
2. What is *starch*? and what is the use of it?
3. What is the difference between *calico, flannel, and linen*? What are the advantages and disadvantages of each for clothing? What is the price per yard of a good sort of each?

SECTION II.

1. Describe the component parts of air, and show the necessity for ventilation.
2. Describe the component parts of water, and name some simple methods of purifying water.
3. How does a fire act upon the ventilation of a room? What would be the effect of a fire-place, and door-place, opposite each other?

SECTION III.

3. Explain the methods you would adopt for teaching needlework to 30 girls, aged from 7 to 14 years, and explain the meaning and use of the following:—hemming, sewing, felling, running, gathering, whipping, stitching, back-stitching, and herring-boning (*add, as often as you can, illustrations by drawing to the several parts of your answer*).

SECTION IV.

1. Write out plain directions for making bread, for brewing, and for curing bacon.
2. Write out recipes for pea soup, gravy soup, Irish stew, potatoe pie, and boiled apple pudding. What are the advantages and disadvantages of salted provisions?
3. Write out recipes for making barley water, beef tea, gruel, and toast-and-water.

SECTION V.

1. How would you treat burns, scalds, sprains, colds, chilblains, stings of wasps and bees?
2. Name the most common vegetable and mineral poisons, and state what course you would adopt in the case of a person who had taken poison.
3. What is to be said for and against the mother of a family going out to work? Illustrate your answer by money reckonings.

SECTION VI.

1. Describe each of the following articles, explaining how it acts—*an oven, a spit, a frying-pan, a saucepan*. What do you mean by *stewing*? Is it an advisable mode of cookery? Why?
2. What do you mean by a *drain*? Why is a house unhealthy if it has *no drains*, or is *near to open ones*? In what situations are houses most likely to be ill drained? Why?
3. What is *vaccination*? What is the object of it? How is it commonly performed?

EUCLID AND ALGEBRA.

Three hours allowed for this Paper.

SECTION I.

EUCLID. BOOKS I. AND II.

1. Write down the "Postulates," and show, from them, what instruments are necessary and sufficient for the constructions in Euclid.
2. If two triangles have two sides of the one equal to two sides of the other,

each to each, and have likewise the angles contained by those sides equal to each other, they shall likewise have their bases, or third sides equal, and the two triangles shall be equal.

Mention the other propositions in the First Book which determine the conditions of equality of two triangles, whether in area only, or in every respect.

3. To make a triangle of which the sides shall be equal to three given straight lines, but any two whatever of these must be greater than the third.

Show, by a figure, that the construction fails when the above condition is not fulfilled.

4. Show how to draw a straight line through the middle point of one of the sides of a triangle, parallel to the base; and prove that the line so drawn bisects the other side.

5. If a side of any triangle be produced, the exterior angle is equal to the two interior and opposite angles.

If the triangle is equilateral, what is the relation between the exterior angle and the adjacent interior angle?

6. Prove geometrically, and also algebraically, that the difference of the squares of any two unequal straight lines is equal to the rectangle of their sum and difference.

7. By what quantity does the square of the side of an obtuse-angled triangle which subtends the obtuse angle exceed the sum of the squares of the other two sides?

Under what conditions is the square of the side subtending the obtuse angle equal to the square of one of the other sides added to three times the square of the third side?

8. Describe a square equal to a given rectilineal figure; apply this to describe a square equal to half a given square.

SECTION II.

1. Work out, as far as you can, the multiplication and division indicated in the following expressions:—

$$(\alpha) (x^2 + 3xy + 5y^2)(x^2 - 5xy - 12y^2).$$

$$(\beta) x(mz - ny) + y(nx - lz) + z(lz - mx).$$

$$(\gamma) \frac{5x^3 - 18x^2y + 11xy^2 - 6y^3}{5x^2 - 3xy + 2y^2}.$$

$$(\delta) \frac{x^n - y^n}{x - y}.$$

In the last case, show, from your working, that $x^n - y^n$ is always divisible by $x - y$.

2. State the rule for finding the highest common divisor of two algebraical quantities, and apply it to reduce to its lowest terms the fraction

$$\frac{x^4 + 4x^3y - 4xy^2 - y^4}{x^3 + 6x^2y + 9xy^2 + 2y^3}.$$

3. Show that any decimal may be represented under the form $\frac{D}{10^m}$. Hence, deduce a rule for the division of one decimal by another.

4. Show, that if $d, d_1, d_2, \&c.$, be the digits of any number beginning at the units place, the number may be represented under the form

$$d + 10d_1 + 10^2d_2 + \&c.,$$

and hence show that, if the sum of the digits be divisible by 9, the number itself is divisible by 9.

5. Write down the square of $a + b$, and from its form deduce a rule for finding the square root of a given quantity. Explain how the same method is applied to numbers.

6. If $\frac{a}{b} = \frac{c}{d} = \frac{e}{f}$, show that

$$\frac{a}{b} = \frac{a+c+e}{b+d+f}.$$

What is the effect of adding the same quantity to the numerator and denominator of a given fraction?

7. Solve the following equations:—

$$(a) \frac{6x-1}{15} - \frac{9x-2}{16} = \frac{x-4x}{6} - \frac{x+4}{8}.$$

$$(b) \frac{x(x+3)}{(x+1)(x+2)} + \frac{4}{3x(x+2)} = 1.$$

$$(c) \begin{cases} ax+by=c \\ a'x+b'y=c'. \end{cases}$$

Explain the result when $\frac{a}{a'} = \frac{b}{b'} = \frac{c}{c'}.$

8. A train started from London at 6.30 for Dover, where it was due at 10.30. After proceeding half-way at the ordinary rate, it was detained three quarters of an hour. The speed was then increased by 8 miles an hour, and it arrived at 10.43. What was the distance travelled, and the rate per hour in each case?

Recreative Exercises.

. The Proposer is, in each case, required to forward to the Editor the Answer in detail, with the Exercise.

XI.—The *initials* will give the name of the largest island in the Eastern hemisphere, and the *finals* one of its largest towns.

1. A town in Sweden, famous for its alum works.
2. A town fifteen miles N.W. from the City of London.
3. A parish in the S.W. of London.
4. A place of interment.
5. A river rising in the mountains west of Brazil (South America).
6. A town in Turkestan.
7. A province in Ireland.
8. A large lake of Russia, near Novogorod.
9. A sea-port town in Palestine, where an English king was wounded by a poisoned arrow.

MARDEN.

XII.—The *initials* will give a county of England; the *finals* will give a town in it, famous for its races.

1. A famous reformer.
2. A bay in Palestine.
3. A large city of Russia.
4. A battle gained by the Duke of Marlborough.
5. A town at the mouth of the river Nile.
6. A tributary of the Danube.
7. A town taken from the French in 1656, by Oliver Cromwell.
8. A province in Palestine.
9. The Governor of Gibraltar from 1789 to 1793, when it was besieged by the Spaniards.

CHARLES ASHEN.

VII. (108).—

$$\left(\frac{800}{5} - 60\right) = 100. \quad \text{In Roman numerals . . C.}$$

$$\frac{12}{5} \text{ of } \frac{5}{3} \text{ divided by } 4 = 1. \quad \text{In Roman numerals . . I.}$$

$$(10 + 12) - (8 + 9) = 5. \quad \text{In Roman numerals . . V.}$$

$$3\frac{6}{9} - \frac{8}{3} = 1. \quad \text{In Roman numerals . . I.}$$

$$\frac{5 \times 40}{4} = 50. \quad \text{In Roman numerals . . L.}$$

When'e'er and howe'er human beings you see,
Remember your duty is—Civil to be.

J. SINCLAIR.

I denominate each of the lines into the proposition, respectively—*a, b, c, d, e.*(1) Solution.—From *a*, a *hundred* we deduce,And *one* from *b* obtain;But *c* a *five* doth satisfyWhile *one* from *d* we gain.Next work out *e* and *fifty*-glean—

A quotient clearly brought;

To which prefix *A, B, C, D,*And view the *conduct* sought.(2) Application.—That Roman *C* should a *hundred* be

Is a fact unknown to few;

While *I* and *V*, of *b, c, d,*

Are equal values true.

The letter *L*, we know full well,

Is 50 at a glance;

And thus, *C, I, V, I, L* spellThe ward "*Alphonso*" wants.

JACK-AT-A-PINCH.

Oxoniensis, Maggie, Harry, Charles Ashen, R. W. Eden, George Mansell, Ich Dien, Thomas Mitchell, Sapere Aude, F. Brough, Rufus, Wm. Young, H. Foot, Elève, James Rider, John Nixon, M. Manuel, Louis, John Smith (Bristol), Wm. Randell, A. E. Freeman, El-tio-Tomas, Quentin, George Newton, R. Fishenden, Aaron Smith, Abram Sturrock, John Petrie, A. W., Pen Dinas, W. Haigh, Constans, J. Fenton, Paul Pry, Iva, Leonidas, and others.

VIII. (p. 108).

1. Geneva
2. Rochfort
3. Edinburgh
4. EriE
5. Copenhagen
6. EphesuS

The initials give GREECE, an ancient country of Europe,

The finals give ATHENS, its chief town.

BLANCHE.

George Newton, Jack-at-a-Pinch, C. F. Redman, Alphonso, W. A. Clarke, Helen, Richard Turner, John Sinclair, Thomas E. Jones, Oxoniensis, Sapere Aude, Richard Haynes, R. W. Eden, George Mansell, James Gill, F. Brough, Ich Dien, James Lightfoot, Thomas Mitchell, M.B., D. A. Stuart, Henry Grundy, Duorp, Pen, Nelly, Y-tri-Athran, Black Robin, H. M. S., James Hewitson, Maggie, John Nixon, John Sinclair, Charles Ashen, Alfred T. Johnson, John H. Eustice, James Rider, William Young, M. A. M., Delta, W. F. D., Wm. Millar, Rufus, James Reid, W. H. B., Conistan, *Excelsior*, Quentin, El-tio-Tomas, Marden, Piccavi, M. Manuel, R. A., Elève, R. Fishenden, Charles Durrant, Adela, John Smith (Bristol), Wm. Randell, Wm. Davey, A. E. Freeman, Sybella M., F. G. Painter, Aaron Smith, R. K. H., C. Lloyd, E. Cressall, Abram Sturrock, Inverbrothock, J. Popplewell, N. J. Hobbs, W. A. Rothwell, John Petrie, James Merkin, and others.

Notices of Books.

MONTHLIES.

1. *Recreative Science*, No. 10.—"Practical Photography," "Coal and Coniferous Wood under a Microscope," and "The Vegetation of a Decayed Nut," are most attractive papers.

2. *The Family Treasury* (May).—"Mahommedan Life," by the Rev. H. H. Jessup, of the Syria Mission, quite fulfils the expectations which its title raises. "A Ghost Story," in the "Children's Treasury," is well told.

3. *The Penny Post*, 113.—We are much pleased with "Antiphons, or Key-Words proper for Anthems—reverberations, in fact, or re-echoings from the several Psalms, in order. Another map of the Arctic Regions is given in this number.

5. *English Journal of Education*, No. 161, N.S.—Replete with educational intelligence.

6. *The School and the Teacher*, No. 29, N.S.—The opening article, "Education in Scotland," is particularly worthy of attention.

Magnet Stories for Summer Days and Winter Nights, is the title of a new monthly serial issued by Messrs. Groombridge and Sons, at 3d. The first number is by the Author of "A Trap to Catch a Sunbeam," and it is entitled "When we were Young." It is indeed "a jolly story." The book is well printed and beautifully illustrated.

Middle Class Atlas, comprising a series of six coloured Maps for the use of Junior Candidates preparing for the Oxford Local Examinations. By WALTER M'LEON, F.R.G.S. London: Longman and Co., 1860. Price 1s. 6d.

The Maps are: England and Wales, Scotland, Ireland, France, Spain and Portugal, and Italy. They are well drawn, and well engraved, on good stiff paper. We can strongly recommend them to Pupil teachers.

Examples in Algebra, for Senior Classes. By J. WHARTON, M.A., M.C.P. London: C. E. Hodgson, 1860. Cloth, 12mo, pp. 168; price 3s.

A better book on the subject could hardly be desired. We shall notice it more fully in our next number; in which, also, we shall call attention to several other works which we think will suit our readers.

A Biblical and Theological Dictionary. By the Rev. SAMUEL GREEN. 12mo, 15th Thousand, 3s. 6d. Elliot Stock, 62, Paternoster Row.

This is one of the best helps a Teacher can have. Any one desiring a portable manual, at a reasonable price, which shall form a key to unlock many difficulties in the Bible, cannot have a better guide. This manual is carefully written; it is illustrated with many useful engravings, and will readily enable a teacher to give a full and accurate reply to a thousand questions which young people are constantly asking their teachers; and, but for such books, such questions would often go unanswered. The Jewish Feasts, Weights and Measures, and the Pronunciation of Scripture proper names, are placed in the Appendix.

Shakspeare's Henry the Eighth: with Introductory Remarks; copious Interpretation of the Text; Critical, Historical, and Grammatical Notes; Specimens of Parsing, Analysis Examination Questions, etc., and a Life of Cardinal Wolsey. Adapted for Scholastic or Private Study, and especially for the guidance of persons qualifying for the Middle Class Examinations. By the Rev. JOHN HUNTER, M.A. London: Longman and Co. 1860. Cl. 12mo. pp. 187.

This is one of the few books accurately described by their title pages. Mr. Hunter, both as an author and as a teacher, merits the respect, and—in many cases—the gratitude of those engaged in elementary education. The present work is another instance of the singular versatility of Mr. Hunter's talents. Need we say that it is well compiled? It is, however, advisable to inform our young friends that it is a work which they will find to be of incalculable service to them. We recommend it most strongly.

NUMBER OF PUPIL-TEACHERS IN A SCHOOL.

THE following correspondence has taken place between the General Secretary of the Associated Body of Church Teachers and the Secretary to the Privy Council on Education. As the subject is of importance to Teachers generally, we present the correspondence entire :—

Lampport, Northampton, January 13th, 1860.

Sir,—The Annual Conference of the "General Associated Body of Church Schoolmasters in England and Wales" which has just terminated in London, having had under its consideration the practical operation of the Minutes issued by the Lords of the Committee of Her Majesty's Most Honourable Privy Council on Education, more particularly that part of the Minute of May 4th, 1859, relative to the limitation of the number of Pupil teachers—namely, sec. 5, which provides that there shall "not be allowed hereafter a greater proportion than *four Pupil-teachers to the same Master or Mistress*; and there being among Teachers assembled from all parts of the country a great diversity of opinion as to the interpretation to be put on this section, it was resolved :—That the Secretary be instructed to inquire of their Lordships of the Privy Council the exact bearing of the Minute of May last, as regards the apprenticeship of Pupil-teachers to a Second Master in the same school, when four are apprenticed to the First Master; because much misapprehension exists on the subject."

In accordance with this resolution, I now respectfully solicit the favour of their lordships' interpretation of that portion of the Minute of May 4th, 1859, to which I have referred. The following questions may possibly aid their lordships in affording the information which is sought, and which is anxiously looked for, not only by the members of the Associated Body of Church Schoolmasters, but also by that portion of the community which is interested in, and anxious to promote throughout the country, the cause of elementary education :—

1. Is a Second certificated Teacher employed in any school, and under any circumstances, regarded as a *Master*, within the meaning of the Minute referred to?

2. If so, will their lordships allow more than four Pupil-teachers in large schools where there are two certificated Masters—that is, a Head Master and a Second Master, or Assistant certificated—in the proportion of one Pupil-teacher for forty scholars in average attendance?

3. If a Second Master receives from their lordships only the augmentative value of his certificate, will he be considered to occupy the place of two Pupil-teachers, as in the case where an Assistant receives the grant of £25 per annum?

4. If more than four Pupil-teachers will be allowed where there are two certificated Masters, to whom will the number, after the first four, be apprenticed? to the Head Master, conditionally, on a Second certificated Master being retained? or to the Second Master?

I offer no further remarks, but leave the matter in the hands of their lordships, hoping they will be pleased to favour the Association with an explanation that will allay the fears which exist, that there is a probability of introducing into schools an element tending to engender unpleasant competition and division, instead of maintaining that unity and concord which their lordships' Minutes have been so successful in promoting.—I have the honour to be, Sir, your obedient servant,

JOHN J. GRAVES.

THE REPLY.

Council Office, Downing Street, London, 18th April, 1860.

Sir,—I have the honour to acknowledge the receipt of your letter of the 10th instant, asking for an answer of that of January 13; and in reply to your letter of January 13, 1860, I have to inform you that more than four Pupil-teachers may be apprenticed in the same school, provided that there be at least forty scholars for each apprentice, and such a number of certificated Teachers as not to require that more than four of the apprentices should be articulated to any one of them.

Pupil-teachers are articulated, and the gratuities for their instruction are paid to junior certificated Teachers, when the number of scholars allows more than four to be retained at the public expense, and the Head Teacher has already four such apprentices.—I have the honour to be, Sir, your obedient servant,

Mr. John J. Graves.

R. R. W. LINGEN.

Notes to Correspondents.

All Communications for the Editor should be addressed "The Editor of the Pupil-Teacher, 54, Paternoster Row, London, E.C."

METHOD OF ASKING OR ANSWERING QUESTIONS.—Our numerous correspondents would save us an immense amount of labour, and be less liable to disappointment from their communications not being promptly attended to, by attention to the following points:—

1. Write *only on one side* of the paper.
2. Keep each subject distinct from others.
3. *Head* each subject thus:—"Editor's Council," "Notes and Queries," "Editor's Questions," &c. &c.
4. Leave a space at the top and at the bottom of the paper.
5. Write your (real or assumed) name on each separate paper.
6. Always let your communications be accompanied by your name and address. For publication you may adopt any signature you please.

Thanks (for Contributions, Answers, kind Letters, &c.)—James Fenton; J. H. Spence; Saxum; J. Sinclair; Paul Pry; Kendalian; M. A. T.; J. H. Smart; William Thackray; N. Haigh; T. A. M.; George B.; James Gill; N. Sanderson; Alphonso; Robert Stratton; James Hewitson; Inatsnac; Taibach; Black Robin; W. G. W.; William McCord; S. Edwards; G. Jones; William Shaw; R. P. S. Pilkington; Constans; Taceo; Pen Dinas; Aaron Smith; Dudley Dumps; Elizabeth Olding; Leonardo-da-Vinci; T. W. Mills; Unknown; Joseph; Nemo; Isaac Carter; G. Smith; Robert Thwaites; Wallace; H. H. Hughes; George Mansell; Abercrombie; Thomas George; Fergus Secundus; Barlow; J. T. Ridley; John Nixon; H. Briggs; H. E. E.; Robin Hood; David Davidson; Prince Albert; Jacobus; Jammie; John Petrie; Annie; Louis; J. T. Wilkinson; W. Bowers; William Davey; A. Youth; H. Taylor; Thomas E. Jones; Thomas L. Simpson; W. McGregor; Iva; W. H. B. Coniston; Halstead; *Murpor*; Charles Ashen; Charles Durrant; Abeille; Trigon; J.; T. Bessie; Oliver Cromwell; Quentin; One-and-All; Protestantism; W. A. Rothwell; Verus Amicus; Bachgen; A. A. Stuart and M. Turner; Troisième; T. J. C.; Adela; Saum Cuique; John Smith; Cantuar; Excelsior; Joseph Scott; Abram Sturrock; Violet; Anglo Saxon; Annie (Margate); W. Maliphant; Essayez; Delta; Billicer; James Merkin; W. R.; T. Denham; Benedict; Leonidas; Mnemon; En Avant; Elizabeth Cryer.

ANSWERS TO CORRESPONDENTS.

Nicholas Nickleby, Burton's Yard, Pontefract.—Every copy of the PUPIL TEACHER subscribed for by our publisher, leaves the office for post on the last day but one, or the last day of every month. If any Subscribers do not receive their copies on the 1st morning of the month, the fault lies entirely at the post office, and not with the publisher.

Contributions kept back (J.F.).—We grant your request. *Mathematical Questions (Taibach).*—Our friends must wait their turn. This answer applies to other questions and other friends.

History Questions suitable for Fifth Year Teachers (Unknown).—See our Number, p. The *nom de plume* which you have assumed is already appropriated (see P. T. vol. 3, p.). Please to select some other.

The Penny Post. The Editor, "Penny Post," 377, Strand, London.

Religious Instruction (T. L. S.).—Are you sure that we received the letter to which you refer? We have not time now to refer to our unpublished communications, but we note your inquiry for next month.

Schoolmasters for India (ib.).—The question as you put it to us cannot be answered categorically. Generally those who engage the master pay his passage money.

Contributions from Schoolmasters (R. S. Newcastle).—We are very glad to receive them. We earnestly desire the co-operation of masters, mistresses, and managers. We cordially thank you for your kind offer, and gladly accept it. No apologies necessary.

Notes of a Lesson on Malta (Robert Theaites).—Good. We have a similar lesson by another correspondent in type, or we would have inserted yours.

"Poor Barnard Smith."—"Joseph" says, "Your correspondent who signs himself 'Robin Hood,' too eagerly accuses Barnard Smith of being wrong in his answer to the problem No. 12, page 300, Appendix 1. The answer which he gives as being the one given in the Arithmetic, is £2600, but that is not the case. The answer given by B. Smith is exactly the one obtained by your correspondent, viz., £6500. Your correspondent has evidently been labouring under some optical delusion. The answer is plainly given on page 345. I hope you will mention the matter, and thus save poor Smith from disgrace." If our friends "Robin Hood" and "Joseph" will each state the edition, it may—we cannot say that it will—turn out that a clerical or typographical error has in a later edition occurred, or been corrected.

Compulsory Education in England (R. P. S. Pilkington).—In the common acceptance of the term, it would prove a failure. It would trench on the liberty of the subject. The advantages of our Government Education Scheme are not universally recognised.

Writing (Prince Albert).—Text-hand, disjointed; small-hand, poor. (T. J. C.)—Very neat. (W. B.)—Promising; pay special attention to your capitals. (Joan of Arc)—Stiff and disjointed, but promising; the style is good. (Anxious Inquirer)—Yes: but "Government" would not object to better. We do not say this to discourage you; you are "all right" so far as writing is concerned.—(R. W.)

The Teacher's Office (E. O.).—"W. Sykes" is the *nom de plume* of a correspondent who sends us his real name and address. We sincerely thank you for calling our attention to the fact that the lines were, with others, published by Mr. J. Groom in the handbill form. They were published anonymously. We shall present them in *extenso* to our readers next month. In the interim we hope that "W. SYKES" will put us in a position to state that he is the author of the lines.

First Attempts (Pen Dinas, J. G., J. S., and many others).—Very creditable indeed. It is most gratifying to us to perceive that each successive month the interest in the "Pupil Teacher" increases.

School Management (Dudley Dumps).—"Morrison's Manual," which you may obtain of our publisher, Mr. Stevenson.

TO SUBSCRIBERS.

MANY of our Subscribers who pay half-yearly have paid to the end of March. Their renewed Subscriptions to the end of the year should be forwarded by an early post. The amount for nine months will be 27 stamps.

TESTIMONIAL.

Presented to Mr. JAMES SIMPSON, by the Pupil-teachers of St. George's National Schools, Kidderminster, a handsome teapot and cream-jug, bearing the following inscription:—"Presented to Mr. James Simpson, on his birthday, March 25th, 1860, by his affectionate Pupils;" together with a suitable Address, appreciating his kindness and unceasing efforts to improve their minds, and expressing a hope that he may be long spared to labour amongst them.

TAXATION AND POPULATION.—In 1805 the estimated population of the Austrian empire was returned at 39,411,309, and the public expenditure was 40,268,618*l.*, or an average of 1*l.* 0*s.* 5*d.* per head. In 1857 the estimated population of Spain was 16,301,851, and the public expenditure was 18,033,001*l.*, or an average of 1*l.* 2*s.* 1*d.* per head. In 1845 the population of Portugal was 3,499,121, and the public expenditure was 2,756,292*l.*, or an average of 16*s.* per head. The population of Switzerland in 1857 was estimated at 2,500,000, and the public expenditure was 603,240*l.*, or about 5*s.* per head. The population of Greece in 1854 was 1,043,153, and in 1858 the public expenditure was estimated at 640,941*l.*, or about 12*s.* per head.

THE PUPIL-TEACHER.

LISTS OF BATTLES.

ADVERTING to our remarks on "Anniversaries" in April number, we take for granted that every Teacher can perceive the advantages of aiding the memory by association of ideas, and that by connecting historical events with incidents of personal interest to the pupils the principles of inductive tuition is interestingly carried out. The pupils are led from the known to the unknown, by a process which amuses whilst it instructs them. The boy who is gratified by the discovery that he was born on the anniversary of some important historical event, will soon evidence a desire to connect the birthdays of his parents, brothers, sisters, or other relatives, and even of his class-mates and playfellows, in the same way. His readiness in associating dates interesting merely in his own domestic sphere, with others of historical importance, will be emulated by other pupils, until the aggregate of chronological and historical information in the class will be surprisingly great. It may be urged that each pupil will have a set of such association of ideas peculiar to himself because specially interesting to himself. To some extent it will be so. But what of that? Even granting that A cares not for any of the dates in which B takes so much interest, the labour of the Teacher is not in vain, the value of the method is none the less. The Educator, especially in an Elementary School, should aim at exercising the intellect rather than crowding the memory. If he succeed in making his pupils master of a method whereby they retain in their minds any useful information which engages their fancy (we use the word *fancy* advisedly), he achieves greatness in his profession.

But, from experience, we know that the cases are exceptional where, under the guidance of a Teacher of average ability, a lesson is as it were anatomised, and the parts so appropriated by individual members, that few or no parts are common-stock-information of the class. The emulation evoked by the usual interrogative teaching will always suffice to counteract such a tendency. We will go beyond this. We venture to assert, that if the birthday anniversary of any individual member of a class is associated by the Teacher with some historical event, that individual, although he himself may take no interest in the idea, will be regarded by other members of the class as a sort of hieroglyphic of the historical event with which the Teacher associated him. This is no mere speculation, and we are sure that an experiment must be awkwardly made if it prove wholly unsuccessful. The measure of its success will of course depend on the ability of the Teacher and the aptitude of the pupils.

There is no special reason why battles and sieges, and such bellicose affairs, should be the subjects of such association of ideas as we suggest. Any historical events will answer the same purpose. But it is well that the Teacher should have a large amount of carefully-classified information, in order to awaken a large amount of interest. If he tell C that Shakespeare was born exactly (*so many*) years before he was, and D that his

birthday was exactly (*so many*) years after that of Milton, he must not be surprised if E, and F, and G, ask him to tell them what great men were born on *their* birthdays. If the Teacher have carefully compiled lists of the birthday anniversaries of celebrated men, he will be able to gratify his pupils' wishes.

Again, instead of days, *months* or *years* might, by a process similar to that now under consideration, be associated with events of domestic or local interest. This, however, for the present, we merely notice in passing.

Proceed we now to remark on our second suggestive note in our article on Anniversaries, namely, that "dates given in Histories, especially in small ones, such as are commonly used in schools, differ very materially, not only with regard to days and months, but also with regard to years."

Nothing is more disheartening, to a young Teacher, than to find that the information imparted by him to his pupils, and by them well remembered, is incorrect. No doubt, with regard to historical dates, a wide margin must be allowed. It is allowed, and the Teacher who can produce his authority for assigning to any given event a certain date, cannot fairly be blamed for inaccuracy. But an earnest Teacher should be also an earnest student, and no earnest student should neglect ordinary precautions against error.

The generally-experienced difficulty in remembering dates is, we think, the strongest argument in favour of great care being taken to give *correct* dates to historical events. We want some laborious student to do for Chronology what Dr. Johnson did for English Orthography. But we fear that "Want" must be our master. Such a task, if ever undertaken, will be but imperfectly performed. Even were it performed well, the work would necessarily be so extensive and expensive, that it would be beyond the reach of those to whom it would be most serviceable. It would be the epitome and index of a well-stocked historical library. Much has been done of late years to meet the requirements of Teachers for books of reference on Chronology, but compilers have their individual and peculiar notions of what particulars are worthy of notice, and what may advantageously be omitted, as increasing the bulk without adding to the usefulness of such works.

Be our aim, then, not to attempt that which, if practicable, is not desirable, but that which all must admit to be essential. Let us examine the discrepancies in our text and class school-books, as well as those in our books of reference, and let us agree as to what dates shall be assigned to the leading events of history.

We must do this methodically, or the difficulties of our undertaking will be increased a hundredfold. Memorable battles are landmarks of history. We may as well begin with them. The question "how shall we begin" is settled. We *have* begun—we have *well* begun. But "well begun is only half done."

How, then, shall we begin the second half of our work? This is the question to which we crave the attention of our readers and indefatigable contributors.

What we propose is this : from each month's list, as published in our pages, let *one* battle for each day be in the first instance selected. Let it be the most important one of those fought on that day. Of course, there will occasionally be diversity of opinion as to the relative historical importance of certain battles.

Our next step then is to compile lists of battles, (one for each day in each month,) to state our authority for the dates of each battle, and our reason for singling it out as of greater historical importance than the rest. The question which suggests itself at this stage is, What is the best way to do this ?

We shall endeavour to answer it by reference to the list of

BATTLES, &c., IN MARCH,

published in our last number.

The list is the largest of any we have yet published. Have more battles occurred in the month of March than in any other month in the year ? Or have our friends taken more pains in the compilation of the list for March than they did for those of the other months ?

If the *first* question must be answered in the affirmative, a very curious historical coincidence is brought to light. March derives its name from Mars, the mythologic god of war.

If the *second* question may be answered affirmatively, it is clear that we had better take the March list for our first experiment.

If *both* questions may be answered in the affirmative (and perhaps they may), we have very strong reasons for commencing with March, especially as it was formerly reckoned the first month in the year.

A painstaking and ingenious correspondent (with whom we have the pleasure to be personally acquainted, to whose kindness we are indebted for many of our best papers on various subjects), has sent us the outline of an Analysis of the Battles in March, from which it appears that there are 739 items, which may be primarily classified into centuries, thus :—

Prior to 13th century, 10 battles, &c., in 10 different years				
Thirteenth	"	8	"	6
Fourteenth	"	9	"	7
Fifteenth	"	11	"	6
Sixteenth	"	14	"	12
Seventeenth	"	33	"	16
Eighteenth	"	201	"	38
Nineteenth	"	453	"	43
Total . .		739		138

In the 18th century there are seven dates each having more than nine items, and making a total of 139.

In the 19th century there are 16 dates each having more than nine items, and making a total of 355.

Subtracting the 494 battles (139+355), we have 245 battles (739—494) in 115 years (138—7+16).

Subtracting the 43 years, to each of which there is but one item, we have 696 (739—43) battles in 95 (138—43) years.

The most cursory perusal of the list will show, that were it not for

evident discrepancies between school-books, the number of items would be considerably reduced.

The following hints may be of use :—

1. Ascertain whether old or new style is meant.
2. Whether the same engagement is not particularized under different names.
3. Whether an evident typographical error has not occurred in the figures denoting the year or the day.
4. Whether, by the omission of the name of the month, the day may not refer to the month immediately preceding, or immediately succeeding, that which by its *position* it may at first sight appear to pertain.

We suggest that the student collocate all the battles, &c., stated in our printed lists to have occurred in the month of each year. He will then readily see where there are the principal discrepancies, omissions, repetitions, and other errors. For instance, by reference to our correspondent's Outline of Analysis, we find that in the March list there are no fewer than *fifty-one* items pertaining to the year 1799, and *forty-three* to the year 1858!

We would, furthermore, recommend that, in compiling *sets* of historical events, a certain connection be sustained, so as to avoid discursiveness. For instance, let us take the first item in our March list—the “Massacre at Vassy” (1562). What an interesting and instructive lesson may be founded on this! The Teacher might give a brief account of the massacre, thus :—

“The Duke of Guise was coming from Lorraine, where he had been collecting troops in order to be ready for the civil war, and was returning to Paris. Passing through Vassy, a small town of Champagne, his people insulted some Protestants who were worshipping in a barn. This first violence brought on greater. Many Huguenots, or Protestants, were killed on the spot. The massacre lasted a whole hour, though the Duchess of Guise, who heard the firing of pistols at a distance, sent to entreat her husband to spare, at least, the women. The Massacre of Vassy was the signal for civil wars, which were alternately interrupted and resumed as often as eight times.”

By way of explanation, a short account of the Duke of Guise and of the civil war for which he was preparing should also be given. The map of France will, of course, be in requisition.

The battle of Jarnac (13th? or 16th?), 1569, was one of the battles in the *third* religious war. In short, all the battles in France, from the Massacre of *Vassy* to the Battle of *Ivry* (March 14th, 1590) belong to the same story—we may say to the same war.

The battle of Ivry is often called the “Battle of the League.” Who could read without emotion Macaulay’s beautiful poem on the subject? What a lesson might be given on that poem! We dare not trust ourselves to give even an outline of it, but we can imagine certain of our young correspondents giving a lesson on it in so spirited a style that the pupils are ready to exclaim—

“Hurrah! Hurrah! a single field hath turned the chance of war.
Hurrah! Hurrah! for *Ivry*, and Henry of Navarre!”

A YEAR OF ANNEXATIONS.

THE *Times* quotes the following from the *Bien-être Social* of Brussels, one of the most ably-conducted weekly journals of the Continent; the *Bien-être* quotes it from the *Post Heiri*, of Soleure:—

“March.—The Empire annexes Savoy and Nice, this annexation having become a ‘geographical necessity.’ Austria stirs not; she is delighted that this trick is played against Victor Emanuel. Prussia says nothing, reserving to herself ‘freedom of action.’

“April.—In order to obtain its ‘natural frontiers’ the Empire annexes the Rhenish provinces. Austria stirs not; she is delighted at seeing this trick played against Prussia, who had deserted her in Lombardy. Prussia pockets the affront, reserving to herself ‘freedom of action’ in regard to Hanover.

“May.—If Venetia is annexed to Lombardy ‘because the Venetians speak Italian,’ Prussia stirs not; she rejoices to see this trick played against Austria, who had abandoned her on the Rhine. Austria is beaten, as last year, having sent her army into battle without their breakfasts.

“June.—The Empire annexes Belgium, ‘because the Belgians speak French.’ England protests. Austria and Prussia stir not; they revenge themselves of England’s abandonment in Italy and on the Rhine.

“July.—The Empire reclaims Baden and Westphalia, ‘because the majority of the inhabitants are Catholics, and have already formed part of the great Empire.’ Austria stirs not, for she is delighted to see Prussia lose Westphalia; Prussia stirs not, for she prefers Baden to be French rather than Austrian.

“August.—In consequence of the annexation of Baden, that also of Wurtemberg and of Bavaria has become a ‘geographical necessity’ to the Empire. Austria is delighted to see Prussia lose the support of Protestant Wurtemberg, and Prussia is delighted to see Austria lose the support of Catholic Bavaria; Germany stirs not. At Jena the students sing, ‘What is the Fatherland?’ Napoleon answers this question.

“September.—The Empire annexes Hanover, Oldenburg, and Mecklenburg, ‘because the possession of the northern seacoast has become necessary to France as a natural frontier.’ At Berlin they seriously propose to exchange the pointed helmets of the army for the kepis. The Germanic Diet, after the annexation of Frankfort, have hidden themselves in the Warburg; they refer to a committee the question of the organization of the Federal army.

“October.—The possession of the kingdom of Saxony and of the Duchies has become for the Empire ‘a political necessity,’ because the European equilibrium requires that Prussia and Austria should be held in check by a third great Power. The Diet flies to Rugen, and in order to calm public opinion, now awakened, vote the erection of a statue to Arndt. The committee appointed by the Diet are not yet ready to report on the organization of the army; therefore the troops cannot be marched against Napoleon.

“November.—The Empire reaches to the Vistula. The annexation of Prussia has become for the Empire ‘a moral necessity,’ as the Emperor

must at any price keep his word. Austria rubs her hands with joy, being rid of other rivals in Germany. Russia stands aghast at seeing the French on the Vistula, and exclaims, 'This is not what I wished.'

"December.—All the territory reaching from the Alps to the Carpathians in Hungary has become for the Empire 'a geographical necessity.' The Germanic Diet has completed the military organization. The statue of Arndt is unveiled on *le Jour des Innocents*, in the Isle of Rugen."

**PERSPECTIVE SIMPLIFIED,
FOR PUPIL-TEACHERS AND OTHERS PREPARING FOR THE
GOVERNMENT EXAMINATIONS.**

BY R. H. TURNER, HEAD MASTER OF THE CRANMER SCHOOLS, LIVERPOOL.

LESSON III.

"THE POINT OF SIGHT," AND "THE POINT OF DISTANCE."—"LINES OF MEASUREMENT," AND "DISTANCE WITHIN THE PICTURE."

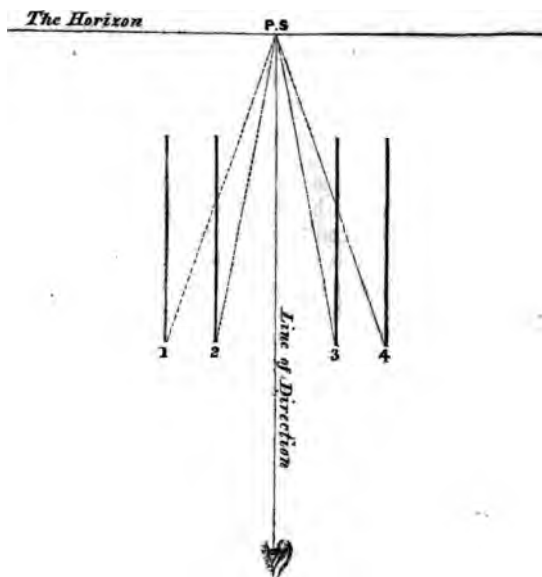


Fig. 6.

SUPPOSE lines 1, 2, 3, and 4 to represent lines in Nature, which are parallel to the Line of Direction, the position here given would be their actual or *original position*, but their *apparent position* would be in the direction of the dotted lines, according to Rule 3. From this is readily inferred the following rule, which it will be well for you carefully to *impress upon your memory*:—

Rule 4.—All lines parallel to the Line of Direction vanish in the Point of Sight.

Now notice Fig. 7. The line ΔC is equal to the line ΔB . The angle at A is a right angle, hence $\Delta C B$ is a right-angled triangle; and because ΔC and ΔB are equal, the angles $\Delta C B$ and $\Delta B C$ are equal. Each of them will, therefore, be an angle of 45° . The lines $1 C$, $2 5$, and $3 4$ are parallel to $C B$, therefore $C 1$, $1 2$, and $2 3$ are equal to the corresponding portions of ΔB , namely $B 6$, $6 5$, and $5 4$. And so also any line, parallel to $B C$, drawn from any point in the line ΔB , will cut off, or measure off, a portion of ΔC equal in length to the corresponding part of ΔB . These lines are *Lines*.

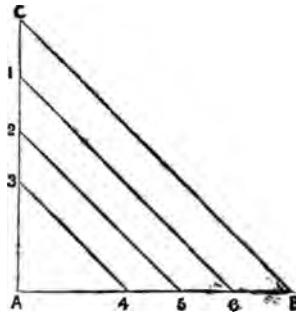


Fig. 7.

sponding part of A B. These lines are, therefore, evidently *Measuring Lines*.

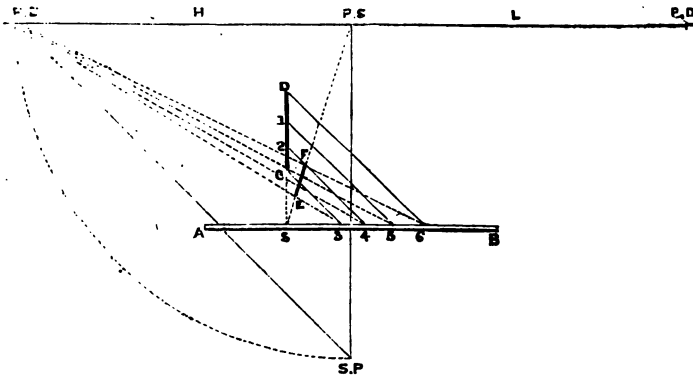


Fig 8.

Now suppose $c d$ in Fig. 8 to represent a wall in a field, that you can see through a sheet of glass ΔB , your station point being at $s p$, and the line from your eye to the horizon the Line of Direction, $s p$, $p s$, being parallel to the wall. From c draw the line $c s$ in a line with $d c$, or in other words, produce $d c$ until it intersects ΔB . The point of intersection, s , is the seat of line $d c$. Now, again, suppose lines drawn from your Picture Line ΔB at an angle of 45° intersecting the line of the wall $c d$, as lines $6 d$, $5 1$, $4 2$, $3 c$. These lines are the Measuring Lines of line $c d$ as before shown.

From previous observations, you know that the line cd will appear to vanish in the point of sight $p s$. The line $s, p s$, will therefore be the apparent direction of line cd . Now imagine your position changed a little, and instead of looking towards the horizon HL in the direction of $s p, p s$, let the imaginary line from your eye, the Line of Direction, be so placed

as to be parallel to the Measuring Lines 6 D, 5 1, &c., as S P, P D. *Parallel Lines appear to vanish in the same point*, we have learnt; then lines 6 D, 5 1, 4 2, 3 c, and S P, P D, will all appear to vanish in one point in the horizon P D. The lines 6 P D, 5 P D, 4 P D, 3 P D, will show, therefore, the *apparent* direction of lines 6 D, 5 1, &c., and will be the *apparent* or *Perspective Measuring Lines* of the Perspective Line s, p, s; just as the lines 6 D, 5 1, &c., are the actual or *original Measuring Lines* of the original line c d. Hence, those portions of line s, p, s, measured off or included within the perspective measuring lines, will be the perspective appearance of the corresponding portions of c d. The line e f is the perspective representation of the original line of the wall c d, or in plainer terms, e f is as the wall c d would appear to your eye, when stationed at s p, and looking through the glass a b, in the direction of s p, p s.

Now take your compasses, and you will find that the line p s, s p, is equal to p s, p d. Hence the following rules:—

Rule 5.—The distance of the Station Point from the Point of Sight, laid down upon the Horizontal Line, gives the Distance Point.

Rule 6.—The Distance Point is the Vanishing Point of all lines which measure lines that vanish in the Point of Sight.

Lines of Measurement.—Now carefully fix on your mind the following remarks. The Base Line, with any perpendiculars on it, are the *only* lines used to represent your picture or drawing. Keep before your mind the idea of the sheet of glass, held up between your sight and the object you wish to represent. The Base Line, which you put on your paper, represents the bottom line or edge of that sheet of glass. If you were out in the field, and were about to trace on your glass the appearance of a cottage in the distance, you would place the glass before you in a vertical position. So, imagine, when you are working out any perspective problem, your sheet of glass (or "*Picture Plane*" we will call it), standing vertically on your Base Line. Keep these thoughts clearly before your mind whenever you are making a perspective drawing, and it may prevent your being at a loss sometimes. Keep distinctly, also, before your mind, what we have already noticed concerning the *Horizontal Line*—that it represents the far-distant horizon, and any line drawn from the *Base Line* to the *Horizontal Line*, on your paper, represents a line going *beyond* your Picture Plane to the horizon, in the distance.

Again, a *Perpendicular Line*, erected on your Base Line, will represent the *vertical* position of your Picture Plane, and its *horizontal* position will be represented by the *Base Line*. On the Base Line, then, you can mark off any horizontal measurements of the object you wish to put in perspective; and on any perpendicular erected on the Base Line, you may measure off any perpendicular measurements. From these geometric measurements your perspective measurements will be obtained.

Rule 7.—The Geometric Lines of measurement, for any perspective representation of an object, are the Base Line, and any perpendicular on the Base Line.

Distance Within the Picture.—By this is meant, the distance of any point

from the picture line, on a line parallel to the Line of Direction. The following figure will make the matter clear :—

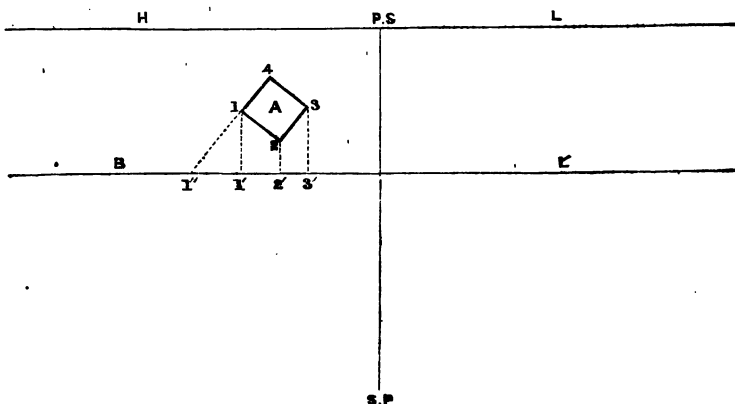


Fig 9.

Let *A* be a *geometric* representation of an object showing its actual position from the Picture Plane. The distance of points 1, 2, and 3 within the picture is represented by the lines 1 1', 2 2', 3 3', which are parallel to the Line of Direction. Don't fall into the mistake, into which learners are apt to fall, that by producing any line to the Base Line, the distance within the picture of any point on that line may be measured on that line. The side, 4 1, is produced to the Base Line, but 1 1' does not represent the distance within the picture of point 1. Nor does 4 1' represent the distance within the picture of point 4. The line 1 1' represents the distance of 1 from the picture, and the distance of 4 from the picture would be represented by a line drawn from 4 to the Base Line parallel to the Line of Direction. These would be the actual or *geometric* positions of the lines. This figure does not give their *perspective* appearance.

Rule 8.—Distance within the picture is the distance of any point from the picture, on a line parallel to the Line of Direction, and vanishing in the Point of Sight.

NOTES OF LESSON.

INTRODUCTION TO CHEMISTRY.

- I. What Chemistry is.
- II. The Ultimate Elements.
 - (a). What the Ultimate Elements are.
 - (b). Their Number and Division.
 - (c). Where Found.
 - (d). Forces.
 1. Cohesion.
 2. Chemical affinity.

III. The General Composition of all Substances.

- (e). Animal and Vegetable.
- (f). Mineral.
- (g). Illustrative Experiments.

IV. Uses of Chemistry.

- (h). General Uses.
- (i). Extraordinary Uses.

I. Chemistry is that science which treats of the peculiar qualities and nature of all material bodies, whether in a solid, liquid, or æriform state. It comprehends almost all the changes in natural objects with which we are connected and have the greatest interest.

II. (a). Water, by certain chemical processes, is known to contain two gasses, called oxygen and hydrogen, but as yet no process has been discovered that is able to separate the oxygen and hydrogen into any other bodies; hence they are denominated *ultimate elements*, or undecomposable bodies. By chemical processes Epsom salts (sulphate of magnesia) can be separated into sulphuric acid and magnesia; and both these bodies can again be further divided, viz., the acid into sulphur and oxygen, and the magnesia into a metallic body called magnesium and oxygen; but oxygen, sulphur, and magnesium cannot be further divided; hence they are called *ultimate elements*.

(b). The ultimate elements at the present time amount to about seventy in number. They may be divided into metallic and non-metallic elements. The metallic elements may be again divided into

- 1st. The metallic bases of the alkalies.
- 2nd. The metallic bases of the earth.
- 3rd. The proper metals.

(c). The ultimate elements, when united together in different proportions, form the incalculable variety of substances found in our world, whether animal, vegetable, or mineral.

(d). The combination of the different ultimate elements is effected by various powers, called *forces*. Those powers which combine the elements are called the *forces of attraction*; those which cause their division the *forces of repulsion*.

(1). When the force of attraction combines different bodies of a similar character, and produces quantities, it is called the *cohesion* of attraction.

(2). When the force of attraction combines unlike substances, or elements, it is called *chemical, or elective, affinity*.

So that cohesion combines elements of a similar nature, and chemical affinity of unlike nature.

III. (e). The non-metallic substances,—oxygen, hydrogen, carbon and nitrogen,—with now and then some sulphur, calcium, and phosphorus,—in general give formation to animals and vegetables.

(f). Minerals are seldom found in a pure state, but generally in combination with oxygen, sulphur, arsenic, and the different acids.

(g). Many animal and vegetable bodies are nearly composed of carbon or charcoal, combined with oxygen and hydrogen. Now, sulphuric-acid

has so great an attraction for water, that it will draw it from nearly every substance in which it exists. As an illustration, if sulphuric-acid be poured upon a piece of wood or sugar, the wood or sugar will become quite black, because the oxygen and hydrogen contained in them will be abstracted by the acid, and the carbon or charcoal will, in consequence, be the only element left of the wood, or sugar, as the case may be.

Through the agency of chemical affinity, pearls will dissolve in vinegar. Also, if an egg be steeped in vinegar, or some equivalent acid, the shell will become so soft that it may be easily put into a very small bottle, and the shell will become hard again by pouring water upon it.

IV. (*h*). All methods used to extract metals from their ores are purely chemical: the arts of tanning, glass-making, soap-making, dying, &c. &c., depend entirely upon the laws of chemistry; and all the operations in distilling, brewing, and baking are nothing more than chemical processes.

(*i*). It is quite certain that without chemistry many wonderful facts with which we are now acquainted must have remained obscure. When we learn, through chemistry, that diamonds and coals are made of the same materials; that the greater portion of water is composed of an inflammable substance; that most of the acids are composed of various kinds of air; that old linen rags, through the agency of sulphuric-acid, will produce more than their own weight in sugar, and that sawdust can be changed into substance in every way as good as flour; surely all must see much to wonder at and admire in the extraordinary omnipotence of the Almighty!

CHARLES F. REDMAN.

The above notes are drawn out for a first or second class, and, according to the writer's opinion, contain enough matter for two lessons of three-quarters of an hour each.—Ed.

LESSON ON THE COCOA-NUT.

FRUIT of a palm-tree, from 60 to 80 feet high—growing up to near the top without leaves—then a tuft of large fan-like leaves. Fruit growing in clusters just under the leaves.

Nut.—Consists of one outside husk, 1 to 2 in. thick. Composed of coarse, dark, red, fibrous substance. 2. Inside shell—very hard and rather brittle, $\frac{1}{4}$ in. thick. 3. Kernel, white, brittle, and sweet. Hollow and partly filled with milk.

Where Grown.—India, Ceylon, Africa, and north part of South America.

Manufacture.—1. Of *Husk*. Taken off the nut—cut in slices—carded or combed—woven into

Uses.—Mats, Rugs, Carpeting, Brooms, Brushes &c.

2. **Shell.**—Formerly for drinking-cups.

3. **Kernel.**—For food—staff of life in some parts of Africa—*Milk* made by Africans into a kind of spirit.

How obtained.—By falling off—climbing up trees by means of a kind of hoop round the trunk and their bodies, which they hook on the notches left by the old leaves, or branches falling off. By throwing at monkeys, who return the salute by a shower of cocoa-nuts—care required in this latter mode of obtaining them.

EBENEZER TURNER.

THE COLONIES OF GREAT BRITAIN.

- Australia (South): obtained by settlement in 1836.
 Australia (Western): obtained by settlement in 1829.
 Antigua: obtained by settlement in 1632.
 Ascension: obtained by settlement in 1827.
 Barbados: obtained by settlement in 1625.
 Bermuda: obtained by settlement in 1609.
 Bahamas: obtained by settlement in 1629.
 Ceylon: obtained by capture in 1795.
 Canada (East and West): obtained by capture in 1759-60.
 Cape of Good Hope: obtained by capture in 1806.
 Columbia: obtained by settlement in 1858.
 Christopher, St.: obtained by settlement in 1623.
 Dominica: obtained by cession in 1763.
 Falkland Islands: obtained by settlement in 1842.
 Guiana: obtained by cession in 1803.
 Gambia: obtained by settlement in 1631.
 Gibraltar: obtained by capture in 1704.
 Gold Coast: obtained by settlement in 1661.
 Grenada: obtained by cession in 1763.
 Helena, St.: obtained by cession in 1763.
 Heligoland: obtained by cession in 1814.
 Honduras: obtained by cession in 1670, and settlement in 1742.
 Hong-kong: obtained by cession in 1842.
 India: the three Presidencies placed under the direct dominion of the Crown in 1859.
 Ionian Islands: obtained by cession in 1814.
 Jamaica: obtained by capture in 1655.
 Labuan: obtained by cession in 1846.
 Lucia, St.: obtained by capture in 1803.
 Malta: obtained by capture in 1800.
 Mauritius: obtained by capture in 1810.
 Montserrat: obtained by settlement in 1632.
 Natal: obtained by settlement in 1824.
 New Brunswick: separated from Nova Scotia in 1784.
 Nova Scotia: obtained by settlement and capture.
 Newfoundland: obtained by settlement in 1608.
 Nevis: obtained by settlement in 1628.
 New South Wales: obtained by settlement in 1788.
 New Zealand: obtained by settlement in 1839.
 Prince Edward's Island: obtained by settlement in 1745.
 Queensland: separated from New South Wales in 1859.
 Sierra Leone: obtained by settlement in 1787.
 Tasmania: obtained by settlement in 1804.
 Tobago: obtained by cession in 1763.
 Trinidad: obtained by capture in 1797.
 Turks and Caicos Islands: formerly included in the Bahamas.
 Vincent, St.: obtained by cession in 1763.
 Victoria: separated from New South Wales in 1850.
 Virgin Islands: obtained by settlement in 1666.

GEOGRAPHICAL LESSON.—MALTA.

1. *Position*.—Malta is an island in the Mediterranean Sea, situated in latitude 36° N. and longitude $14^{\circ} 30'$ E. Distant from Sicily 50 miles, and from Africa 200 miles.

2. *Names*.—It was anciently called Melita, and thence Malta. It is supposed to be the identical island of St. Paul's shipwreck.

3. *Extent*.—The area of Malta is 95 square miles; but, including Gozo and Cumino, which are generally included in the name "Malta," the total area would be 125 square miles.

4. *Physical features of the Land*.—Malta is not very elevated, but, however, it has several small hills, the highest of which is 600 feet. Gozo is higher, and is surrounded by rocks. The soil is by nature a barren rock, but has been brought to the highest state of perfection by the hand of man. The agriculture is in a very forward condition, and the chief objects of culture are wheat, cotton, and fruits (lemons, oranges, figs, grapes, and olives). Gozo is more fertile than Malta: here most of the wheat, &c., is grown, which serves as the food for the Maltese; here is also a good deal of pasture, on which numerous cattle are fed. The weather, in summer, is very hot, and the fruits of the tropics all flourish here. The place, however, is deficient in one thing, viz. water, and to supply the inhabitants it is collected in tanks, whenever it rains.

5. *People*.—The people are called Maltese, and consist of the original people, and an intermixture of English. The population is estimated at about 130,000, that is, 1,100 to a square mile. In Scripture the people of this country are called "barbarians."

6. *Religion and Education*.—The majority of them are Roman Catholics. They are very superstitious; and education is very backward, but is improving under the English residents.

7. *Towns*.—1. Valette, the capital, great trade, a station of the "Overland route to India." 2. Porto San Pado. Tradition ascribes the shipwreck of St. Paul to this place. 3. Citta Notabile; ancient capital.

8. *History, &c.*—This place has belonged to several nations. Charles V. had it in his possession for a time, when he gave it to the Knights of St. John, instead of Rhodes, from which the Turks expelled them. The Turks tried to capture it, but failed. At length, in 1798, Napoleon took it; but it was retaken by the British and Maltese in 1800, when it was given up to the British by the Maltese, under whose sway it has since remained. It is the centre of our Mediterranean trade. In 1854, our troops landed here previous to going to Russia.

PEN DINAS.

EMIGRATION.—The number of Emigrants who sailed from the United Kingdom during the 44 years from 1815 to 1858, inclusive, amounted to 4,797,160. Of these 1,180,046 went to the North American colonies; 2,890,403 to the United States; 652,910 to the Australian colonies and New Zealand; and 73,807 to other places. The average annual emigration from the United Kingdom from 1815 to 1858 amounted to 109,026; for the 10 years ending 1853, 261,865.

LATE FROM THE SCHOOL-ROOM.—Minnie: I am reading such a pretty tale. Governess: You must say narrative, Minnie—not tale. Minnie: Yes, ma'am; and do just look at Muff, how he's wagging his narrative.—Punch.

Editor's Exercises.

HISTORICAL GEOGRAPHY.—ELTHAM.

10 (page 128).

ELTHAM is derived from two Saxon words, *eald* and *ham*, meaning the "old town," or habitation.

About the year 1042 Ealdham, or Eltham, belonged to a powerful man named Alwode, who granted it soon afterwards to King Edward the Confessor.

About the year 1080 William the Conqueror granted Eltham to his half-brother Odo, the Bishop of Baieux.

About the year 1090 William Rufus confiscated all the possessions of Bishop Odo, and part of Eltham was given to the Mandeville family, while the remaining portion was kept by the Crown, until it was made over to Lord John de Vesey, a powerful baron, by Edward I. Lord Vesey soon afterwards became the master of the whole of Eltham, by giving to Walter de Mandeville a sixth-part of the manor of Luton, in Bedfordshire, in exchange for his part of Eltham.

Lord John de Vesey, at his death, bequeathed Eltham to his grandson William de Vesey, appointing Anthony Beke, the warlike Bishop of Durham, his guardian, during his minority.

By some means or other Anthony Beke became the possessor of Eltham, and Leland says, that "he was either the very author or the first beautifier of the palace." Anthony Beke died at Eltham in the year 1311, and the manor passed into the hands of Sir Gilbert de Aton, a relation of William de Vesey, who was killed at the battle of Bannockburn. Sir Gilbert granted Eltham to Geoffrey Scrope, of Masham, who soon afterwards presented it to Isabel, the Queen of Edward II.

Since 1320 Eltham has been occasionally granted for terms of years to various individuals, and is now held under a lease from the Crown.

Eltham is now chiefly celebrated for the remains of a magnificent palace, which was the favourite suburban residence of the monarchs of England from the year 1270 to 1540.

In the year 1270 Henry III., together with his Queen, Eleanor of Provence, and his Court, celebrated their Christmas at Eltham.

In the year 1315, while Edward II. was carrying on an unsuccessful war against the Scots, his Queen, Isabella, gave birth to a son at Eltham Palace, and he was consequently surnamed "John of Eltham." This appears to have much pleased the King, who, as before stated, was in Scotland at the time: Sir E. Montibus being the first to go thither to inform him of the event, received £100 for his trouble. The young Prince John was baptised at the Chapel Royal, Eltham, August 30th, 1315, the Bishop of Norwich and the Earl of Lancaster being his sponsors.

In 1331 King Edward III. held a Parliament at his Palace of Eltham.

In 1347 Lionel, the third son of Edward III., and at this time guardian of the realm, celebrated his Christmas at Eltham.

On January 1st, 1364, King John of France honourably returned to England, and landed at Dover, as a prisoner, in consequence of not being able to ransom himself. At this time Edward III. with his Queen, Philippa, were residing at Eltham, and hearing of the arrival of King John, sent a grand deputation to escort him to their palace. King John arrived at Eltham on a Sunday afternoon, and there were, says Froissart, "between that time and supper many grand dances and carols, at which it seems that the young Lord de Councy distinguished himself by singing and dancing." King John was magnificently entertained while at Eltham, whence the palace is often denominated "King John's Palace."

In 1375 Edward III. held a second Parliament at Eltham, when the Lords and Commons attended him with a petition to make "his grandson, Richard of Bourdeaux, son and heir of Edward, late Prince of Wales, and heir apparent of the realm."

From 1377 to 1399. During the interval between these two dates, Richard II. frequently resided at Eltham, and in the tenth year of his reign sumptuously entertained Leo, King of Armenia, who had been driven out of his kingdom by the Turks.

From 1390 to 1413. Between these periods Henry VI. made Eltham one of his favourite abodes, and kept his last Christmas at its palace.

From 1413 to 1422. Between these intervals Henry V. lived sometimes at Eltham, and we are told by Lambard "that he lay there at Christmas, when he was fain to depart suddenly, for fear of some that had conspired to murder him."

From 1422 to 1461 Henry VI. made the Palace of Eltham his principal residence, making several alterations during his reign.

From 1461 to 1483. It is supposed that Edward IV. built the magnificent hall of the palace, as it contains two of his well-known symbols, beautifully carved in different parts of it. These two symbols, or badges, are the "*rose en soleil*," and the "Falcon and Fetterlock," which latter is supported by four angels with spreading wings. The architecture of the hall is most decidedly that of the last half of the fifteenth century, which would correspond to the time of the monarch in question. Edward IV. also expended vast sums of money in either building or beautifying other parts of the palace.

In 1481 the Queen of Edward IV. gave birth to her fourth daughter, Bridget, who was baptized the following day by the Bishop of Chichester, in the Chapel Royal, Eltham. Bridget afterwards became a nun at Dartford.

In 1482 Edward IV. celebrated his last Christmas at Eltham Palace. During the festivities he fed at his own expense, every day, 2,000 people.

From 1485 to 1500. Henry VII. built a magnificent front to the Palace of Eltham, and usually lived there, dining in the Great Hall with all his officers.

From 1509 to 1546. Henry VIII., during this period, allowed the repairs of the palace to be neglected, though he sometimes resided there.

In 1515 Henry VIII. kept his Whitsuntide holidays at Eltham Palace, during which time he created Sir Edward Stanley "Lord Monteagle," for his valuable services at the battle of Flodden-field.

In 1527 the same King kept his Christmas at the same place with great splendour.

In 1550 Edward VI. made Sir John Gates, Keeper of the Manor and Palace of Eltham.

In 1553 Sir John Gates was attainted of high treason, and executed.

In 1559 Queen Elizabeth appointed Sir C. Hatton, Keeper of the Palace Royal, Eltham.

In 1629 Charles I. appointed Patrick Maule to be the Keeper of Eltham Park.

In 1649 a survey of the palace and lands of Eltham was ordered to be made by Parliament, soon after the execution of Charles I. According to this survey, "The palace consisted of one fair chapel, one large hall, thirty-six rooms and offices below stairs, seventeen lodging-rooms on the king's side, and seventy-eight rooms in the offices round the court-yard."

The lands of Eltham included three parks; viz. the Great Park, the Little Park, and Home Park, containing together 1,700 acres.

The trees on the estate were numbered at 7,700, and the parks were well stocked with deer for hunting purposes.

Most of the trees and deer were destroyed during the Commonwealth by the soldiers and common people.

In 1659 the palace and lands were sold to Nathaniel Rich, Esq., M.P., a Parliamentary general, for £2,754.

In 1660, at the Restoration, the Lands and Palace of Eltham became again the property of the Crown.

In 1663 Charles II. granted a lease of the Manor of Eltham to Sir John Shaw.

In 1753 the lease was renewed by the Crown to the great-grandson of Sir John Shaw, of like name, and the Manor is now in possession of the same family.

Since 1660 the palace has gradually fallen into decay, and the boundary walls, a beautiful bridge, a subterraneous passage, and the Great Hall, are the only portions remaining of this edifice.

The hall, 100 feet long, 56 broad, and 60 high, is the most splendid part at present in existence, and contains many of its old heraldic devices. The beautiful bay windows, which were originally covered with stained glass, have lately been bricked up.

This palace, once the abode of kings and the birth-place of princes, is at the present time a farm, and the Great Hall, where Parliaments were held and entertainments given, now a barn for the threshing and housing of corn.

In 1828 the roof, which is of timber, and richly ornamented, was repaired, together with the parapet and buttresses.

The church is dedicated to John the Baptist, and was founded by William, Earl of Gloucester, about the year 1170. The first rector was Adam de Bromleigh.

In 1767 the church was enlarged and beautified, at considerable expense.

In the chancel of the church lies buried Susan Philipott, the wife of John Philipott, Esq., the Somerset Herald, and author of "Kent Illustrated and Surveyed." Under the north aisle is the burial-place of the Shaws. Sir John Shaw was buried here in 1680, and his wife, Bridget, the Countess of Kilmurrey, in 1696.

In the churchyard lies buried, together with his wife, George Horne, D.D. who was Bishop of Norwich, Dean of Canterbury, and President of Magdalene College, Oxford. Bishop Horne's "Sermons" and "Commentary on the Psalms" are highly esteemed.

Thomas Doggett, the comedian, was buried in Eltham churchyard in 1721, as well as Sir William James, Bart., who distinguished himself at the taking of Severndroog Castle.

In 1749 an ancient piece of money was found at Eltham, weighing 15½ grains, and supposed to be a coin of the time of Richard I.

In 1819 a ring, containing one ruby and five diamonds, and bearing the following words in Norman-French, was discovered among the ruins of the palace:—"Who wears me shall perform exploits, and with great joy shall return."

The bricks used to build Greenwich Palace were burnt in the kilns at Eltham.

Eltham is in the diocese of Rochester and deanery of Dartford.

Eltham at the present time contains about 500 houses, and is on the high road from London to Maidstone.

CHARLES F. REDMAN.

HISTORY.

13. (1) A battle for each day in March.
- (2) State briefly the historical importance of each.
- (3) Brief notes of each.

Notes and Queries.

. We wish it to be distinctly understood that we do not guarantee that all the notes, replies, &c., are correct. Criticisms on lessons, parsing, &c., are requested. The Subscribers to the "Pupil-Teacher" should consider themselves as members of a Mutual Improvement Society, and regard our periodical as their medium of intercommunication.

Our Notes and Queries are of three classes:—

I.—Mathematical.

II.—Philological, including Grammar, Paraphrasing, Composition, &c.

III.—Miscellaneous, including all questions on subjects of Study or Method.

Questions of Discipline or Management, affecting Pupil-teachers, are discussed in the EDITOR'S COUNCIL.

In sending Answers, merely refer to the number and page thus:—"Mathem. No. —, p. —;" "Philol. No. —, p. —;" "Miscell. No. —, p. —."

N.B.—The number refers to the query, not to the "Pupil-Teacher."

PHILOLOGICAL: ANALYSES.

No. 8. (p. 42).

A.—PRIN: SEN.

- | | | |
|-----|-----------------------------------|-------------------------|
| (a) | Not to relent | Subject to c. |
| (b) | is | Copula. |
| (c) | { beastly
savage
devilish } | Predicate to a. |

B.—PRIN: SEN.

- (d) Which of you... .. Subject to *e*.
 (e) would entreat Predicate to *d*.
 (f) not Adjunct to *e*.
 (g) for life Prep. phrase to *e*.

C.—SUB: SEN: TO B.

- (h) If Joining word.
 (i) you Subject to *k*.
 (j) were Copula.
 (k) a prince's son Predicate to *i*.
 (l) being pent from liberty Part. phrase to *d*.
 (m) as I am Adv. phrase to *l*.

D.—SUB: SEN: TO B.

- (n) If Joining word.
 (o) two such Adjuncts to *p*.
 (p) murderers Subject to *r*.
 (q) as yourselves Adv. phrase to *p*.
 (r) came Predicate to *p*.
 (s) to you Prep. phrase to *r*.

R. FISHENDEN.

The six next best:—

2. *Pen. A.* (as 1), *B. Interog. Sent. C.*, "If—liberty," *D. "As I am," E. "If two such murderers came to you,"* adverb.

Sentences. *F. "as yourselves,"* adj. sent.

3. *Blenheim. A.* and *B.* (as 1), *C.*, "If—son," *D. E.* and *F.* (as 2).

4. *A. Smith. A.* and *B.* (as 1), *C.* (as 3), *D. "being—I am," E. "If—you,"* adv. clauses.

5. *El-tio-Tomas.* (similar to 2).

6. *J. H. Spence. 1.* (as 1 *A.*), *Intro. sent.*; 2 (as 1 *B.*), *Prin. sent.*; 3 (as 3 *C.*), 4 (as 4 *D.*), 5 (as 1 *D.*), *Sub. sentences.*

7. *Kate, F.* (substantially similar to 1).

The following deserve notice.—*E. M. S.* (sim. to 1), *E. J. Paul* (makes 9 div.), *James Fenton* (makes 13 div.), *A. F. Gillespie* (sim. to 4), *Ichabod and Johannes* (make 8 div.), *R. M'William* (makes 15 div.)

PHILOLOGICAL: PARSING.

No. 8. (p. 42).

If.—Conjunction, cop.

Being pent.—Participle pass.

As.—Adv. of manner.

I.—Pronoun, pers., 1st. pers., com. gen., sing. num., nom. case to *am*.

Am.—Neu. ver. indic. m., pres. indef. tense, sing. num., 1st. agr. with *I*.

Yourselves.—Compound pro., com. gen., plu. num., 2nd pers.

Came.—Verb intrans., indic. mood, past indef. tense, plu. num., agr. with nom. murderers.

Entreat.—Verb intrans., pot. mood, pres. indef. tense, sing. num., 3rd pers., agr. with nom. which.

E. J. PAUL.

Similarly, numerous correspondents.

Principal variations and deviations.

If.—Intr. conj. (2* and others); conditional conj. (*A. F. G.*); subjunctive (*Johannes* and others).

As.—Conj. (3, 4, 5, *Johannes*; *J. Fenton*; *E. M. S.*; *A. F. G.*)

Yourselves.—Recipr. pron. (2, 3, 5, and others); comp. noun., in app. with murderers (6 and others); 2nd nom. (2, 4, 5, 7, and others); 3rd nom. (3, *A. F. G.* and others); 2nd obj. (*James Fenton*, and others); obj. (*R. Fishenden*).

Entreat.—Ind. (2, 5, and others); inf. (4, 7, *R. Fishenden*, and others).

* The figures refer to those contributors whose Analyses we have noticed.

12. (CABEE).—Paraphrase “The creation by writ, or the king’s letter, is a summons to attend the House of Peers by the style and title of that barony which the king is pleased to confer; that by patent is a royal grant to a subject of any dignity and degree of peerage. The creation by writ is the more ancient way; but a man is not ennobled thereby, unless he actually take his seat in the House of Lords; and some are of opinion that there must be at least two writs of summons, and a sitting in two distinct Parliaments, to evidence an hereditary barony; and, therefore, the most usual, because the surest, way is to grant the dignity by patent, which ensures to a man and his heirs, according to the limitations thereof, though he never himself makes use of it.”—*Blackstone*, “*Of the Civil State*.”

MATHEMATICS: SOLUTIONS, &c.

16. (p. 10).

Adding $\frac{1}{2}$ to each side of the equation it becomes

$$2x^2 - x - 2 + x\sqrt{1-x^2} + \frac{1}{2} = 2.$$

By transposition and changing signs

$$2 - 2x^2 + 2x\sqrt{1-x^2} = \frac{1}{2} - x.$$

Resolving into brackets

$$2(1-x^2) + 2x\sqrt{1-x^2} = \frac{1}{2} - x.$$

Dividing by 2 and completing the square

$$(1-x^2) + x\sqrt{1-x^2} + \frac{x^2}{4} = \frac{1}{4} - \frac{2x}{4} + \frac{x^2}{4}$$

Extracting the root

$$\sqrt{1-x^2} + \frac{x}{2} = \pm \frac{1-x}{2}$$

$$\therefore \sqrt{1-x^2} = -\frac{1}{2} \text{ or } \frac{1-2x}{2}$$

First, let $\sqrt{1-x^2} = -\frac{1}{2}$,

Squaring each side by the equation.

$$1-x^2 = \frac{1}{4}$$

$$\text{and } x^2 = 1 - \frac{1}{4} = \frac{3}{4}$$

$$\therefore x = \pm \sqrt{\frac{3}{4}} = \frac{1}{2} \sqrt{3}.$$

But if $\sqrt{1-x^2} = \frac{1-2x}{2}$

the $2\sqrt{1-x^2} = 1-2x$

and $4-4x^2 = 1-4x+4x^2$

By transposition

$$8x^2 - 4x = 4 - 1 = 3.$$

Dividing by 8

$$x^2 - \frac{1}{2}x = \frac{3}{8}$$

Completing the square

$$x^2 - \frac{1}{2}x + \frac{1}{16} = \frac{3}{8} + \frac{1}{16} = \frac{7}{16}$$

Extracting the root

$$x - \frac{1}{4} = \pm \frac{\sqrt{7}}{4}$$

$$\therefore x = \frac{1}{4}(1 \pm \sqrt{7})$$

J. W. MILLS.

Similarly: Aaron Smith; Urban; Campbeltown; S. E.; W. G. W., &c.

20. (p. 10).

$$\text{Given } x + \sqrt{x} + 2 = \frac{x^2 + x - 4}{\sqrt{x}}$$

Multiplying and transposing, we have

$$\sqrt{x}(x+2) + x = x^2 + x - 4 \therefore \sqrt{x}(x-2) = x^2 - 4$$

$$\therefore \sqrt{x} = x - 2 \therefore x - \sqrt{x} = 2 \therefore x - \sqrt{x} + \frac{1}{4} = \frac{9}{4}$$

$$\therefore \left(\sqrt{x} + \frac{1}{2} \right)^2 = \frac{9}{4} \therefore \sqrt{x} - \frac{1}{2} = \frac{3}{2}$$

$$\therefore \sqrt{x} = \frac{4}{2} = 2, \text{ or } -\frac{2}{2} = -1 \therefore x = 4 \text{ or } 1.$$

TRIGON.

Similarly: Aaron Smith; Fergus; Pen; Urban; Anglus; John Sinclair, and others.

21. (p. 11).

$$x^2 - \frac{5x}{2} + 15 = \frac{25x^2}{16} - \frac{64}{x^2}$$

$$x^2 + 15 = \frac{64}{x^2} = \frac{25x^2}{16} + \frac{5x}{2}$$

Adding 1

$$\begin{aligned} x^2 + 16 + \frac{64}{x^2} &= \frac{25x^2}{16} + \frac{5x}{2} + 1 \\ &= \frac{25x^2 + 40x + 16}{16} \end{aligned}$$

$$x + \frac{8}{x} = \frac{5x + 4}{4}$$

$$4x^2 - 5x^2 + 32 = 5x^2 + 4x$$

$$4x^2 - 5x^2 - 4x = -32$$

$$x^2 + 4x = 32$$

$$x^2 + 4x + 4 = 36$$

$$x + 2 = \pm 6$$

$$x = \pm 6 - 2$$

$$= 4, -8.$$

JOHN SINCLAIR.

Similarly: Aaron Smith; Campbeltown; Urban, and others.

22. (p. 41).

First by the rule of alligation.

$$91 \left| \begin{array}{c} 70 \\ 138 \end{array} \right| \begin{array}{c} 47 \\ 21 \end{array} \left| \therefore 47 \text{ acres must be added to every 21.} \right.$$

$$\begin{aligned} \therefore \text{As } 21 : 47 &:: 51 \cdot 625 : 115 \cdot 5416 \\ &= 115 \text{ acres } 2 \text{ roods } 6\frac{2}{3} \text{ perches.} \end{aligned}$$

P. 111.

Inasmuch as the land above the average $\left(\begin{smallmatrix} \text{A. R. P.} \\ \text{the } 51 \text{ } 2 \text{ } 20 \end{smallmatrix} \right)$ is $\frac{47}{21}$ as much above it, as the required quantity is below it, the latter must evidently be $\frac{47}{51}$ times the former, which is 115 2 6 $\frac{2}{3}$.

AARON SMITH.

Similarly: Urban; Rose Villa; Susannah, &c.

54 (p. 42)

The question resolves itself into this, What two members are they, the less of which being added to the greater makes the greater five times the less?

The greater — the less = 5 times the less

\therefore the greater (= 5 times the less — the less) = 4 times the less.

\therefore the greater : the less :: 4 : 1 = $\frac{4}{1}$.

SUSANNAH.

Let x = numerator.

Let y = denominator.

Then $x + y = 5x$.

$y = 5x - x = 4x$ = denominator.

Then x the numerator = 4 x the denominator.

$= 5x$ = numerator $\times 5$: denominator = $\frac{5x}{5} = x$

Fraction = $\frac{x}{4x}$ (divided by x) = $\frac{1}{4}$

JOHN SMITH.

Similarly: E. McWELSH; T. ISSAC; Lowick; Urban; Wolsey; Aaron Smith; H. SPURGE; S. YERGEN; SENECA; LINDA; Brookfield; George S. HENNECK; HENNECK ROSE; Joseph SCHMIDT; EDWIN HALL.

MISCELLANEOUS—ANSWERS.

10. By considering the locomotive to occupy the same space for a definite period, the latter appears to have come to the conclusion that it does not move at all. But the fact is, that it only occupies the same space for a time infinitesimally small, that is, no time at all, and therefore it is never stationary.

W. G. W. Y.

The assumed correspondent says, with reference to the above answer, "If published and noticed, I must retract." Who accepts the challenge?—ED.]

The argument employed by Dr. Johnson is not sufficient to prove that a body does not move at all. It shows it has neither more where it is nor where it is not, but not more than where it is or where it is not.

SAMUEL.

MISCELLANEOUS—QUESTIONS.

1. How many of the above have their manufactures and exports and are historical documents connected therewith?

2. How many of the above have their manufactures and exports and are historical documents connected therewith?

3. How many of the above have their manufactures and exports and are historical documents connected therewith?

4. How many of the above have their manufactures and exports and are historical documents connected therewith?

Correspondence.

METHOD OF TEACHING SUBTRACTION.

To the Editor of the PUPIL-TEACHER.

DEAR SIR,—I have found great difficulty in teaching "Simple Subtraction" to a junior class. Now, the remarks I shall suggest will, I think, if tried, greatly facilitate any Teacher who has to instruct a class in that Rule.

The general method is, to borrow *ten*, when the figure on the subtrahend is greater than that on the minuend; but, in the following sum, my plan is this—

$$\begin{array}{r} 296^{14} \\ 1839 \\ \hline \end{array}$$

We cannot take 9 from 4. Borrow one, and place it before the 4; then it is obvious that 14 will be the number to be subtracted from, and the remainder 5; carry the one you borrowed to the next figure, 8, which becomes 4, and proceed as in the general method.

I have tried it and find it answers *astonishingly*. To a more advanced class this method of course should not be taught; but to young ones, who cannot understand about the tens, I think it is preferable.

JOSEPH FRENCH.

QUESTIONS SET TO PUPIL-TEACHERS AT THE CLOSE OF EACH YEAR OF APPRENTICESHIP.

To the Editor of the PUPIL TEACHER.

DEAR SIR,—As you kindly accepted my proposal concerning the above subject, in your April number of *The Pupil Teacher*, I send you the first list of Questions. The whole of this list has been set to Candidates for the office. I fear that if I add more this month I shall be encroaching too much on your valuable space; I intend therefore that this shall be followed, with your permission, by others set at the end of *each* year of apprenticeship.

The proposal was simply this:—"Would not the publication, in *The Pupil Teacher*, of questions which have been set at the close of different years of apprenticeship, by H.M. Inspectors, be a useful suggestive guide, not only to Pupil-teachers themselves, but also perhaps to young and inexperienced Masters and Mistresses who have Pupil-teachers under their charge? The publication of Questions for "Queen's Scholarships," and "Certificates of Merit," in the various scholastic papers, has been attended with very beneficial effects; and why should not the publication of Questions given to Pupil-teachers be attended with a similar result? I am sure it would be hailed by many with joy, especially those whom Providence has placed in country schools, where they have not much intercourse with their fellows."

I am, &c.

CURE.

QUESTIONS BY H.M. INSPECTORS OF SCHOOLS, SET TO CANDIDATES FOR THE OFFICE OF "PUPIL-TEACHERS."—(Contributed by "CURE.")

"One *whole* question must be answered in each of the Six Sections of this paper; if, when you have answered one in each Section, you have any more time, you may answer any other questions which you choose."

SECTION I.—HOLY SCRIPTURE.

1. Give an account of *one* of the following:—

The Deluge; the Life of Jacob; the Life of Gideon; Our Lord's Temptation; St. Paul's last Journey.

2. Write out one of our Lord's Parables in the words of Holy Scripture.

SECTION II. - CATECHISM.

1. Write out the Answer to the question, "What did your Godfathers and Godmothers then for you?" and explain the following expressions:—"renounce the devil and all his works: the pomps and vanity of this wicked world."

2. Write out your "Duty towards your Neighbour;" and give texts of Scripture to show that we ought to be obedient to those who are set over us, and to bear no malice or hatred in our hearts.

SECTION III.—ARITHMETIC.

1. (a) Add together—One hundred and two, three thousand and twenty, thirteen, and seven.

(b) Take seven hundred and fourteen pounds seven shillings and ninepence three farthings, from two thousand pounds six shillings and ninepence farthing.

2. Divide five thousand and seven pounds ten shillings, among nineteen persons.

3. Multiply seventeen tons, three hundred-weight, three quarters, and nine pounds, by forty-six.

4. What quantity of cloth is contained in eighteen parcels, each of them containing four ells, three quarters, and two nails?

SECTION IV.—GRAMMAR.

1. Name the Parts of Speech in the following sentence:—"We heard four young musicians playing harmoniously together on the sea-shore."

2. Parse each word fully.

SECTION V.—GEOGRAPHY.

1. Explain what is meant by a *Lake*, a *Peninsula*, a *Mountain*, a *Continent*.

SECTION VI.—TABLES.

1. Write out *Long Measure* and *Avoirdupois Weight*.

Recreative Exercises.

. The Proposer is, in each case, required to forward to the Editor the Answer in detail, with the Exercise.

XIII.

A thousand's half you are to take.
Then, what three-fourths of eight-sixths make.
Two tens from five-and-twenty draw—
Now, quickly find without a flaw
Nine-eighths, of three-fifths of four-ninths,
By small fraction of three-tenths.
Of pounds in eighteen quarters, you
Will please to throw away twice two.
The tail of nine you may subjoin
To make the puzzle really thine.
You then will find it doth express
An operation, that, more or less,
You will be call'd upon to do
As Mathematics you pursue.

ROBERT STRATTON.

XIV.—The initials will give the name of a famous philosopher of England.

The finals will give the name of a literary man contemporary with Addison.

1. The name of a town near the Liffey (20 miles S.W. of Dublin).
2. The name of the river which discharges the surplus water of the Ulleswater Lake into the Eden.
3. The name of a town in Herts, on the Lea.
4. The name of a town, on the west-coast of Kerry, on a little river which falls into Tralee Bay.
5. The name of a river in Suffolk.
6. The name of a river flowing through the county of Kilkenny.

LEONARDO-DA-VINCI.

ANSWERS.

IX.—(p. 137).

DamascuS	(Acts ix. 20.)
AmasA	(2 Sam. xx. 10.)
NethiniM	(Ezra viii. 20.)
IsraeliteS	(Exodus iii. 10.)
Eschol JerichO	(Numbers xiii. 24.)
LebanoN	(Ezekiel xxvii. 5.)

DANIEL (Ezek. xiv. 14 to 24) SAMSON.

H. M. S.

Also : Delta, W. Rowe, E. Cryer, W. McGregor, W. Maliphant, Abercrombie, W. Bowers, H. H. Hughes, W. Thackray, and others.

X.—(p. 138).

CaleB	(Judges i. 13.)
ArimatheA	(Matt. xxvii. 57.)
PassoverR	(John vii. 10.)
EliphaZ	(Job xxii. 1, 2.)
RaddaI	(1 Chron. ii. 14.)
NathanaeL	(John i. 47.)
AbigailL	(1 Sam. xxv. 18 to 30.)
Uzza	(1 Chron. vi. 29 and 31.)
MalachI	(Mal. iii. 1.)

CAPERNAUM (Matt. xi. 23). BARZILLAI (2 Sam. xvii. 27).

EMILY AND SARAH APPLETON.

Also : W. Bowers, Pen Dinas, C. Ashen, En Avant, C. Durrant, Halstead, Constans, Violet, One-and-All, and others.

The following answer *both* (IX. and X.) :—J. T. Bessie, Jacobus, A. A. Stuart and M. Turner, J. Merkin, Billicer, Excelsior, Benedict, T. E. Jones, W. A. Rothwell, Essayez, W. Davey, Oliver Cromwell, Bachgen, G. Mansell, Louis, J. Nixon, J. H. Spence, Adela, R. Stratton, Black Robin, T. A. M., J. Sinclair, W. Shaw, J. Fenton, Tnatsnoc, J. Hewitson, J. H. Eustice, Wallace, W. McCord, J. Petrie, Fergus Secundus, Aaron Smith.

Selections by the Editor.

RUSSIA IN THE FAR EAST.—In a scientific point of view the late cruise of the Russian ships of war in the Japan seas has been attended with some successful results, for in the beautiful Bay of Corea they discovered three large islands not to be found on any existing chart, and named them America, Nachodka, and Voyvoda respectively. America Island lies at the furthest end of the Island of Chu-sim, in the Gulf of Corea. The geographical position of Nachodka is laid down as in 42 deg. 45 min. N. lat., and 133 deg. 2 min. 30 sec. E. long, from Greenwich; while Voyvoda, with very dangerous reefs surrounding its approaches, is given as lying in 42 deg. 14 min. 30 sec. N. lat., and 137 deg. 17 min. east of Greenwich.—*London and China Telegraph.*

THE UNIVERSAL METAMORPHOSIS.—If a wafer be laid on a surface of polished metal, which is then breathed upon, and if, when the moisture of the breath has evaporated, the wafer be shaken off, we shall find that the whole polished surface is not as it was before, although our senses can detect no difference; for if we breathe again upon it the surface will be moist everywhere except on the spot previously sheltered by the wafer, which will now appear as a spectral image on the surface. Again and

again we breathe, and the moisture evaporates, but still the spectral wafer reappears. This experiment succeeds after a lapse of many months, if the metal be carefully put aside where its surface cannot be disturbed. If a sheet of paper on which a key has been laid be exposed for some minutes to the sunshine, and then instantaneously viewed in the dark, the key being removed, a fading spectre of the key will be visible. Let this paper be put aside for many months where nothing can disturb it, and then in darkness be laid on a plate of hot metal—the spectre of the key will again appear. In the case of bodies more highly phosphorescent than paper, the spectres of many different objects which may have been laid on it in succession will, on warming, emerge in their proper order. This is equally true of our bodies and our minds. We are involved in the universal metamorphosis. Nothing leaves us wholly as it found us. Every man we meet, every book we read, every picture or landscape we see, every word or tone we hear, mingles with our being and modifies it. There are cases on record of ignorant women, in states of insanity, uttering Greek and Hebrew phrases, which in past years they have heard their masters utter, without, of course, comprehending them. These tones had long been forgotten; the traces were so faint that, under ordinary conditions, they were invisible; but these traces were there, and in the intense light of cerebral excitement they started into prominence, just as the spectral image of the key started into sight on the application of heat. It is thus with all the influences to which we are subjected.—*Cornhill Magazine*.

“KENTISH KENDAL.”—“On a morning* his grace,† the Earls of Essex,‡ and Wiltshire,|| and other noblemen to the number of twelve, came suddenly into the Queen’s chamber all apparelled in short coats of Kentish Kendal, with hoods on their heads, and hoses of the same. Every one of them having his bow and arrows, and a sword and buckler, like outlaws or Robin Hood’s men; whereof the Queen, the ladies, and all other there, were abashed, as well for the strange sight, as also for their sudden coming; and after certain dances and pastime made, they departed.”—*Halls’ Chron.*

BESTOWAL OF A MEDAL BY THE POPE ON BRITISH TROOPS.—Shortly after the taking of Bastia, in Corsica, in May, 1794, a portion of the Twelfth Lancers proceeded to Italy, and landed at Civita Vecchia, where the conduct of the officers and men was such as to gain the notice of Pope Pius VI., who ordered gold medals for the officers, as will be seen from the accompanying letter from his Secretary of State, Cardinal de Zelada:—“From the Vatican, May 30th, 1794. The marked consideration which the Holy Father has always entertained, and never will cease to entertain, for the generous and illustrious English nation, induces him not to neglect the opportunity of giving a proof of it, which is now afforded by the stay of a British regiment at Civita Vecchia. As his Holiness cannot

* Soon after his marriage with Catherine of Arragon.

† The king, Henry VIII.

‡ Henry Bouchier, 2nd Earl of Essex; died, 1529.

|| Henry (younger son of Henry Stafford, 2nd Duke of Buckingham), created by Henry VIII. Earl of Wiltshire 1509; died, 1523.

but applaud the regular and praiseworthy conduct of the troops in question, he has determined to evince his entire satisfaction by presenting a gold medal to each of the officers, including General Sir James Steuart, Bart., and Colonel Erskine, though absent; and since these medals, twelve in number, are not, at the present moment, in readiness, nor can be provided before the departure of the regiment from Civita Vecchia, the Holy Father will be careful that they shall be sent, as soon as possible, to Sir John Cox Hipplesly, who will be pleased to transmit them to the respective officers, making them acquainted, at the same time, with the feelings by which His Holiness is animated, and with the lively desire which he entertains of manifesting on all occasions his unalterable regard, whether it be towards the nation in general, or towards every individual Englishman. In thus making known to Sir John Cox Hipplesly, member of the British Parliament, the dispositions of the Supreme Pontiff, the Cardinal de Zelada, Secretary of State, begs leave to add an offer of his own services and the assurances of his distinguished esteem." General Sir James Steuart and Colonel Erskine before mentioned were the colonel and lieutenant-colonel of the regiment. Some of the officers proceeded to Rome, and were introduced to the Pope, who received them very graciously, and taking a helmet into his hand, expressed a hope "that Heaven would enable the cause of truth and religion to triumph over injustice and infidelity," and he then placed it on Captain Browne's head.—*Carter's "Curiosities of War."*

ILLUSTRATION.

BY ROBERT STRATTON.

FROM the derivation of this word (Lat. *lusto*, I shine), we obtain a very good meaning, viz., that of a *shining into*. This meaning carries with it an intimation of the purposes of Illustration, and the times when it is to be used.

We will notice, *how all Illustration is to be employed.*

"Illustration" means a "Shining into." This shining proceeds from a light. You must, therefore, use all illustration as a light or lamp to penetrate the darkness with which you may come in contact. Suppose yourself before a class. In the course of a lesson, a certain point is reached. A standstill takes place. You go on teaching, but find the class does not follow. How is this? Because the path you have been pursuing brings the pupil to a dark and impenetrable cave. He is unable to follow the windings of the cavern, or find anything to guide him. You have previously gone through the cavern; now you must help your pupil, who is entering for the first time. You are to do this by the aid of the lamp of Illustration. You must so use the lamp, that you not only explore every nook and corner of the cave, but make it appear to your pupil, as it is to you, as clear as the noon-day. He must be so thoroughly acquainted with the cave, that at any future time he may be able to go in without the lamp and come out in safety. Thus, Illustration is to be used to explain anything that the

mind of the pupil cannot comprehend; and so to explain and lighten up a particular point, that it is no longer a slippery shadow, but a substance grappled and held firm by the understanding.

KINDS OF ILLUSTRATION.

1. Verbal. 2. Illustration by means of Objects.

1. *The Verbal.*—This can be used independent of "*object illustration.*" The pure verbal illustration will be used in the explanation of a single word or phrase, and will refer either to the derivation of the word or words in question, with others from a similar root, to its use in the sentence, with instances where it is similarly or differently used. This kind of illustration will also be used in the allusions to corresponding events, or similar customs or circumstances to those you may be describing in the course of the lesson.

2. *Illustration by means of Objects.*—This cannot be used without the help of the verbal illustration. It is no illustration of an object to have a model or diagram of that object placed before a class, without saying any more than, "This is a model"—"or diagram of." The parts of the model must be explained; the points in the picture brought out, or, to the class, both will be very nearly useless. The model or the picture are not the illustration itself, but only the helps to it.

METHODS OF ILLUSTRATION, &c.

1. *Verbal Illustration.*—A verbal illustration should be couched in the simplest language, and expressed in the concisest manner, otherwise confusion is only made worse confounded. The illustration then assumes something of the word famous. The illustration must also be thoroughly used, or it is of no avail. The matter contained in the illustration must be accurate, and the illustration itself to the point.

2. *Object Illustration.*—This may be used in every lesson; perhaps in none better than explanatory arithmetic to young children. The aids here consist of the "abacus," beans, or any other objects the Teacher may choose to employ.

Among the means for using this kind of illustration, the black-board and chalk stand foremost. It is easy of access, and costs, comparatively speaking, nothing. By aid of the black board, difficulties and peculiarities in orthography will be much better illustrated than by any verbal exposition. You will have the eye and the ear to depend upon, instead of the ear alone. In giving gallery lessons, the black-board is a great help to illustration, both in writing down the points of your lesson, and in illustrating, by drawing or otherwise, any particular part. If you have a model or picture of the "*subject*" of your lesson, by means of the black-board you can show more clearly a portion of the picture. Thus, the claw or bill of a bird—supposing your lesson to be about a bird—will be more clearly seen from a sketch on the board than from the picture. Besides showing the formation of that particular claw or bill, you might draw bills or claws of other birds, and show wherein they agree with, or differ from, the first.

(To be continued.)

Notes to Correspondents.

All Communications for the Editor should be addressed "The Editor of the Pupil-Teacher, 54, Paternoster Row, London, E.C."

METHOD OF ASKING OR ANSWERING QUESTIONS.—Our numerous correspondents would save us an immense amount of labour, and be less liable to disappointment from their communications not being promptly attended to, by attention to the following points:—

1. Write *only on one side* of the paper.
2. Keep each subject distinct from others.
3. *Head* each subject thus:—"Editor's Council," "Notes and Queries," "Editor's Questions," &c. &c.
4. Leave a space at the top and at the bottom of the paper.
5. Write your (real or assumed) name on each separate paper.
6. Always let your communications be accompanied by your name and address. For *publication* you may adopt any signature you please.

Thanks (for Contributions, Answers, kind Letters, &c.)—D. Holdsworth; Cure; Lowiek; Campbeltown; Joseph French; J. H. Eustice; Lucella; Billicer; J. T.; C. F. Redman; Pharamond; S. Malcolm; J. Lightfoot; Trout-Fisher; C. Knight; J. H. Spence; F. Jones; Mnemon; T. Denham; Llandeilo; G. Mansell; J. McMillan; Alfred Parker; H. H. Hughes; J. Mitchell; Jean C.; A. Romillyite; M. Manuel; Jez; Rhodanus; Abercrombie; Dudley Dumps; Claudius; W. Young; J. T. Ridley; J. Hewitson; B. Baker; Shakspeare; Delta; Jas. Kepple; J. Gill; J. Sinclair; D. R. Evans; R. S.; J. V.; M. Maskell; Beautiful England; Thrush; E. Cryer; Bachgen; J. Popplewell; W. H. B. and T. C. Coniston; Jack; Alexander; S. B.; Henricus; R. Stratton; Alphonso; Tnatsnoc; Old Phlos; Apollo; Annie (Margate); S. Hull; Violet; R. K. H.; Greta; Meta; Troisième; E. Hughes; Pompey; Cymreiges; A. A. Stuart; Myra; A. E. Freeman; A. Kerr.

Received.—J. M. G.; Cymreiges glan Towy; J. Lightfoot; Robin Hood; C. Knight; Mnemon; Wilmington; Mars; Robert Thwaites; Victoria; Auto-didaktos; J. Hewitson; Oliver Ogborn; W. R. Bourke; Hanover; Harold; Leonardo da-Vinci; E. Cryer; Cabee; Taceo; Lilac; Jack; Alexander; Henricus; W. D.; Alphonso; Apollo; W. R. Ramsdin; Pompey; Nescio; J. W. Mills; W. G. W.

Notes and Queries, and Editor's Exercises.—Our next number will contain a large number of answers.

ANSWERS TO CORRESPONDENTS.

Parsing (Imprimatur).—"Thine" is in the objective case.

Holy Orders (Scio).—You might receive ordination without going to the University. Your idea about teaching in a Grammar School, after you have left a Training Institution, is a good one. You will then have facilities for getting on with Latin and Greek. If you enter a Training Institution in the diocese of a Bishop who receives *literate* as candidates for orders, it would perhaps be an advantage.

Save your Stamps (W. Rowe and others).—Unless your contributions weigh more than $3\frac{1}{4}$ ounces you need not put on more than *one* stamp. Let the ends of the packet be open.

Overweight Letters.—Our publisher informs us that a number of *overweight* letters are still brought to the office, and, of *course*, after the notice and advice which we have given, they are refused.

Critical Remarks.—We must crave the indulgence of very numerous correspondents, to omit our critical remarks on their contributions, at all events for the present.

Earl of Shaftesbury (Harold)—24, Grosvenor Square, or St. Giles, Cranbourne.

Answers by Post.—We must again remind our friends that we cannot undertake to answer their inquiries by post, even though stamps be enclosed to defray postage. To several, however, we shall write in the first week in the month. Those who send us stamped envelopes, and are not impatient for immediate attention to their wishes, shall as soon as practicable receive answers. We wish it to be clearly understood that, with us, it is an exception, not a rule, to correspond with our subscribers by post, and that therefore we cannot fairly be charged with tardiness, or even with want of courtesy in not replying at all. *Other Answers* again unavoidably kept back for want of space.

Original Poetry.

EVENING REFLECTIONS.

The Spirit of the Twilight! Who is she?
 A heaven-descending messenger, that comes
 With embassy of love, and underneath
 Our roof abides, and sits beside us near
 The hearth to bear us company awhile.
 Thus Lot once welcomed guests, and thus, like them
 Will ev'ning's angel close the door upon
 Th' intruding world for those by whom she is
 Received. The hours of converse with a friend
 Are hours of rapid wing, so soft her voice,
 So vivid all the scenes she paints, so true
 And holy all her words. 'Tis she—that blest
 Benignant Spirit—who hath taught us thus
 That flowers bloom everywhere; yea, in the spheres
 Of duty—where the sweating brow, or brain
 That aches, conceals their tiny forms—as in
 The world of Nature, where they oft-times grow
 In meek retreat. 'Tis she who points to clouds
 That redden in the west, or bids us hear
 The cuckoo's voice—both omens of success.
 Nor would she less remind us in her thrill
 Of eloquence—the utterances of a warm
 And feeling heart—that we have “gone astray;”
 Or how the captivated ear drew off
 From duty, saying, “We were woodmen, who,
 Relinquishing the axe, sat down to dwell
 Upon the thrush's notes.” More does she say—
 But now enough. And is not this a sweet
 And blest society—a fellowship
 That gladdens whilst it knits the heart in strength?
 We rise with day-break, fresh in energy,
 Like one that rests on an emerging rock,
 And, looking o'er the billows he has passed
 And buffeted, strikes out again upon
 The bosom of the deep.

“UNKNOWN.”

CITY OF LONDON SCHOOL.—The following announcement was made in the University of Cambridge, on Tuesday, June 5: *Camden Medal*—The most noble the Marquis Camden, being pleased to give, annually, a gold medal as a prize for the best Exercise in Latin Hexameter Verse, the same has been adjudged to Edwin Abbott Abbott, of St. John's College. Subject—“*Plataeæ Lacedæmonis Obsessa*.” Mr. Abbott was Captain of the City of London School, and proceeded from it to the University in 1857, as a Carpenter and Salomons scholar.—*City Press*.

THE PUPIL-TEACHER.

THE GIFT OF THE GAB.

THE GIFT OF THE GAB! What a vulgar phrase! How it savours of slang! Ah, but how expressive it is! Talk of your "*copia verborum*," your "conversational powers," your "easy flow of language;" designate the acquirements implied by these terms by any other expression sanctioned by conventionalism or suggested by reflexion, the probability still is, that you will ultimately come to the conclusion to which the celebrated George Stephenson was brought when he said, that "of all the gifts on, and above, and below the earth, the *gift of the gab* is the greatest." Of course the axiom, if such it may be called, must be accepted in a modified sense. We must be cautious about attaching too much importance to sentiments expressed in pithy sentences, "wise saws and modern instances." Stephenson himself is an ever-memorable and striking example that men may have bestowed upon them gifts incomparably greater and more glorious than the *gift of the gab*!

Accepted, however, in a modified sense—the sense in which probably the great Engineer intended it to be understood, the axiom is as true as it is important. *The gift of the gab* is one of the greatest—nay, we may say the greatest (secular) gift a human being can receive from the Creator. It is the greatest, because it involves the largest amount of responsibility. From those to whom much is given, much will be required. *The gift of the gab* is the greatest and most responsible (secular) gift, because it involves power—power over fellow beings—power too of a kind compared with which physical prowess, political authority, and social status are insignificant—*moral power*.

Before we proceed it will be well to make a few apologetic observations with regard to the use of the term which we have made our theme.

The gift of the gab, if not a cant phrase, is so much like one, that it could not be with propriety admitted into what the writers of Grammar-books would call *serious discourse*. We should regret exceedingly to sanction the use of a vulgarism of any kind by so flippant an apology as "how expressive it is!" There is not a sentiment or an emotion which the circumstances of social intercourse can evoke, that may not be expressed much more forcibly than the usage of civilization will justify. This is a subject on which we shall not now enter. Who first talked about the *gift of the gab*?—and on what occasion? Wherein consists its impropriety? Wherein its expressness? These are questions which we shall not attempt to answer. The phrase was used by a very clever man—one very clever man at the least; the occasion on which he used it was a very appropriate one; it was by him introduced into very good society (if indeed

good society had not long before been familiar with it); henceforth it is a phrase to be read in a school-book, and if it be not a respectable phrase after its kind, why, it is no fault of ours, nor of yours either, polite reader. Let it pass, and let it take its chance in the world as best it may.

If you have not read the biography of George Stephenson, you had better do so, first opportunity. It is worth reading, and you will find it in Mr. Gleig's "*Book of Biography*."* The author tells the tale of the Gift of the Gab thus:—

"Even Sir Robert Peel, though he delighted, perhaps too much, in boasting that he was one of the people, found some difficulty in coaxing Stephenson to Drayton Manor. Twice a very friendly invitation was refused; and the third Stephenson accepted only because a further rejection of Sir Robert's advances might convict himself of pride. He found at Drayton two men highly distinguished in their respective walks of life—the late Dr. Buckland, professor of geology in the University of Oxford, and the late Sir William Follett, one of the ablest and most eloquent lawyers whom the English bar has produced. It chanced, one day after dinner, that the conversation turned on the subject of coal and its formations. Buckland and Stephenson differed in opinion; and though Stephenson was right and Buckland wrong, the latter, having a far greater command of words, and being more accustomed to speak in public, silenced his adversary. Next morning Follett, strolling into the garden, found Stephenson pacing to and fro, and lost, as it seemed, in thought. The lawyer went up to him, and asked what it might be which seemed so to fill his mind? 'I am thinking,' replied Stephenson, 'how extraordinary it is that I, who was right in my views, should have been beaten yesterday in argument by one who was wrong.' 'Are you quite sure you were right?' 'Quite,' replied George; 'there can be no doubt of that.' 'Then come into this arbour, and tell me all about it, and we'll see if we can't beat Dr. Buckland in argument yet.'

"Well, they sat down in the arbour, and Stephenson explained fully and clearly why his opinion ought to be accepted, and that of Dr. Buckland rejected. Follett listened attentively, and then, rubbing his hands, exclaimed, 'I have it now—I'm ready for him!' Sir Robert Peel was at once let into the secret, and the same day he managed with great cleverness to bring the conversation again to the subject of coal. On this occasion, not Stephenson but Follett took up the cudgels; and Buckland, who had triumphed the day before, was completely beaten. There was a great laugh; and on Sir Robert asking Stephenson what he thought of that, George replied, 'I think that of all the gifts on, and above, and below the earth, the gift of the gab is the greatest!'"

Illustrations are often better than definitions. It is not very easy to define the *gift of the gab*. Eloquence, garrulity, loquacity, any and every term by which talkativeness may be designated, may imply something more or something less than the *gift of the gab*.

The *gift of the gab* is, to use a pet phrase of newspaper reporters and dabblers in light literature, "better understood than described." It is easier to say what it is not than to say what it is. Well, then, we shall, like

* "*Book of Biography*." By the Rev. G. R. Gleig. Longman & Co. Price 9d.

some of our young friends, choose what is easiest, and endeavour to point out what the *gift of the gab* is *not*.

I. First, It is *not* eloquence. *Many* who have the gift of the gab in an eminent degree are not eloquent. *Some* who are eloquent do not possess the *gift of the gab*. Eloquence is the utterance of *thought*—impassioned thought; that is, thought moulded, as it were, in the heart, and expressed so as not only to make known the speaker's opinions, but his feelings also. The basis of eloquence is *truth*. The eloquent man is not necessarily a truth-lover or a truth-teller, but he is necessarily a truth-expositor. He gives utterance to the true feelings or sentiments of the human heart, be they right or wrong. Herein lies his power—his influence over his fellows. Eloquence charms us and influences us, not so much conveying to us the sentiments of the speaker, as by representing to us our own sentiments in a more respectable verbal garb than we could give them. Eloquence searches out "the vainest corner of our own vain heart," when it would seal error there. Its offspring claims kindred with our most cherished sentiments, and as those sentiments have been subject to intellectuality—to reason—or to some higher and holier influence, so will eloquence operate on them for good. We will not dare to assert, for we do not believe that eloquence, even when it influences us for good, does not influence us by appealing to our vanity. We are flattered to find that our sentiments can be so beautifully expressed—to find that they are entertained by others who, though perhaps not more influenced by them than we, can make them known, and obtain for them the applause which we believe them to merit. By vanity, we mean that combination of self-complacency, self-esteem, and love of approbation, which is rarely separable from moral greatness, which it nourishes; and which is almost inseparable from moral littleness, which nourishes it.

But whether vanity—the vanity inherent in the humblest of us—is or is not the mainspring upon which eloquence operates, certain it is that eloquence influences our moral more than our intellectual faculties. Surely, then, the *gift of the gab* is something *less* than eloquence.

II. *The gift of the gab* is *not* Rhetoric. Rhetoric is eloquence exercised persuasively. It not only represents our feelings and sentiments—decks our thoughts so finely as to make them vain of themselves; but it also leads them—moulds them; aye, and even changes them sometimes. There may be eloquence without rhetoric, but there cannot be rhetoric without eloquence.

III. *The gift of the gab* is *not* Logic. It is quite possible for one to be a profound logician without being at all eloquent. Logic appeals to the understanding, not to the feelings. An address may be very eloquent; and at the same time very illogical. A logician may be entirely destitute of the *gift of the gab*, and one who has the *gift of the gab* may know nothing of logic, theoretically or practically—in fact, his *gabble* may be the very reverse of logical.

IV. *The gift of the gab* is *not* Garrulity. By garrulity is generally understood a mere habit of prating, or gossiping. It implies not so much readiness of utterance as propensity to talk.

V. *The gift of the gab* is *not* Loquacity. By loquacity we understand

a habit of talking for the mere sake of talking. It differs but slightly from garrulity, which may be defined as mischievous loquacity—that, at all events, is the conventional sense of the term.

VI. *The gift of the gab* does not imply the possession of a *copia verborum* (copiousness, fullness, of words). It is astonishing how, comparatively, few words, we mean as regards variety, are used by many who are said to have the *gift of the gab*.

After pointing out what the gift of the gab is not, we still find ourselves at a loss to define what it is. It is hardly fair to call it false eloquence, for it is as natural as eloquence itself, and quite as much, if not more, powerful for good or evil. It has a rhetoric peculiarly its own—a rough-spun rhetoric, which amuses and conciliates us rather than persuades us. Logic it supersedes, or at the best patronizes occasionally, as certain rich folks patronize poor scholars—using them as make-weight company when they desire to make a grand display. Garrulity, or loquacity, is a mere concomitant of the *gift of the gab*, which does not necessarily involve it; and, as we before observed, a *copia verborum* is not indispensable to it. The more attention we bestow on the subject, the more convinced we are of the difficulty of defining the *gift of the gab*—the more convinced we are that Stephenson predicated of it rightly. Like “Conversation in its better part,” it may be “Esteemed a *gift*, and not an art.” It is not to be acquired, although it may be cultivated. Its chief characteristics are, perhaps, general intelligence, fluency of language, readiness of repartee, quickness of apprehension and comprehension, and a peculiar mannerism, not to say audacity, which bears down, although it does not always neutralize, opposition. It renders the company of the uneducated and ill-educated bearable, and that of the well-educated agreeable. It is a passport to all sorts and conditions of men. It is compatible with eloquence, rhetoric, and logic, although independent of them. The most brilliant orators are indebted to it; and to men of business it is often invaluable. It is a gift which every teacher, every public instructor, may be pardoned for coveting. Truly, it is one of the greatest gifts with which man can be endowed by the Creator; but its greatness is attributable chiefly to the responsibility which it involves.

Powerful as it is for the propagation of truth, it is no less potent for the diffusion of error. It is possible—nay, probable—that Stephenson experienced the truth of this, in various ways, long before his discussion with Professor Buckland at Drayton Manor. Stephenson had not the *gift of the gab*—Buckland had; so had Follett; but Follett had cultivated it—the very nature of his profession demanded that he should cultivate it. What was the result in the instance before us? Buckland, who was wrong, silenced Stephenson, who was right; and Follett, who, it may be, had never made *coal* his special study, refuted Buckland, whose knowledge of it was profound and extensive. May we not imagine Stephenson cogitating on the possibility of one having the *gift of the gab* refuting Follett, even as Follett had refuted Buckland—even as Buckland had refuted Stephenson?

It is a great—a very great gift to know the truth; it is still a greater *gift to be able to propagate it*.

**PERSPECTIVE SIMPLIFIED,
FOR PUPIL-TEACHERS AND OTHERS PREPARING FOR THE
GOVERNMENT EXAMINATIONS.**

BY R. H. TURNER, HEAD MASTER OF THE CRANMER SCHOOLS, LIVERPOOL.

LESSON IV.

RECAPITULATION.

BEFORE proceeding further, recapitulate and distinctly fix on your mind the Rules already given; and if every thing in them is not clear to your mind, refer again to the previous lessons. If these primary matters be well understood, the problems will present but little, if any, difficulty. To assist you, we repeat the Rules consecutively.

RULE 1.—*Lines ABOVE the eye appear to DESCEND.*

RULE 2.—*Lines BELOW the eye appear to ASCEND.*

RULE 3.—*All lines parallel to each other, when produced, vanish in the same point.*

RULE 4.—*All lines parallel to the Line of Direction vanish in the Point of Sight.*

RULE 5.—*The Distance of the Station Point, from the Point of Sight, laid down upon the Horizontal Line, gives the Distance Point.*

RULE 6.—*The Distance Point is the Vanishing Point of all Lines that vanish in the Point of Sight.*

RULE 7.—*The geometric lines of measurement for any perspective representation of an object, are the BASE LINE, and any PERPENDICULAR ON THE BASE LINE.*

RULE 8.—*Distance within the picture is the distance of any point from the picture, on a line parallel to the Line of Direction, and vanishing in the Point of Sight.*

Commit these Rules to memory, because you will need them, more or less, in working out any problem.—We will now proceed to give a series of exercises on the perspective of *points*. With each exercise a problem similar to the exercise is given. Take your paper and instruments, and, after having carefully studied the exercise, work out the problem for yourself, and *without reference to the exercise*. Don't pass on from one exercise to another until you can work each problem in order without difficulty.

THE GROUND PLANE AND THE PICTURE PLANE.

In Fig. 9, the square, A, and the lines 3 3', 2 2', and 1 1', &c., are not perspectively represented, but, for the sake of the illustration required, are geometrically represented; that is, represented according to their actual or original position in nature. The use of the space between the Base and Horizontal Lines, for this purpose, in this instance, is only for the sake of convenience. The proper place, or the place most generally used for all *geometric representations*, is the space *below the Base Line*. The space *between the Base and Horizontal Lines* is used only for *perspective representations*. Keep in mind, when you are working out any perspective exercises, that this space represents a plane receding from the Base Line and vanishing in the distant horizon, which is represented by H L. The only instance when geometric measurements and representations appear to come between these two lines, is, when a perpendicular stands on

the Base Line (see Rule 7). But this is only in appearance. Such a perpendicular represents the plane of your picture; and the space between $B L$ and $H L'$ must be considered as a plane, a horizontal plane, stretching out far beyond your picture plane. The space, then, below the Base Line, we shall call *the original plane*.

THE PERSPECTIVE OF POINTS.

EXERCISE I.

PROBLEM I.

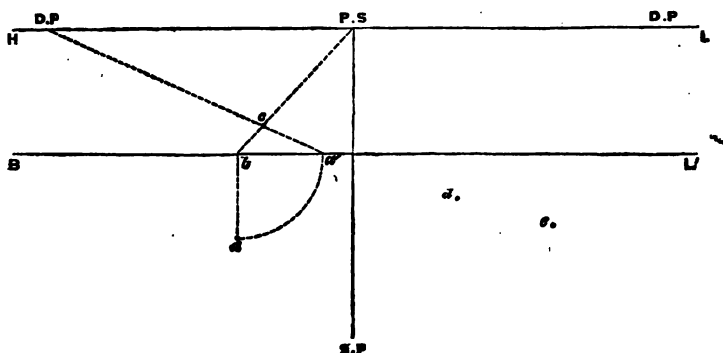


Fig. 10.

Given—the representative lines and points, and point a , which is in its original position to the Base Line and Line of Direction; or, in other words, a is a *plan* of a point.

Required—the perspective representation of point a .

From a draw a line to the Base Line, parallel to the Line of Direction. From the point of intersection b draw a line to $P.S.$ The line $b P.S.$ is the perspective representation of the line $a b$. Hence the perspective representation of point a will be in that line. With the compasses, upon the Base Line from point b , lay down the length $b a$ to a' . Then from a' draw a line to the measuring point $D.P.$, intersecting $b, P.S.$ in the point c , which is the point required.

PROBLEM I.—Required, the perspective representation of points d and e .

EXERCISE II.

PROBLEM II.

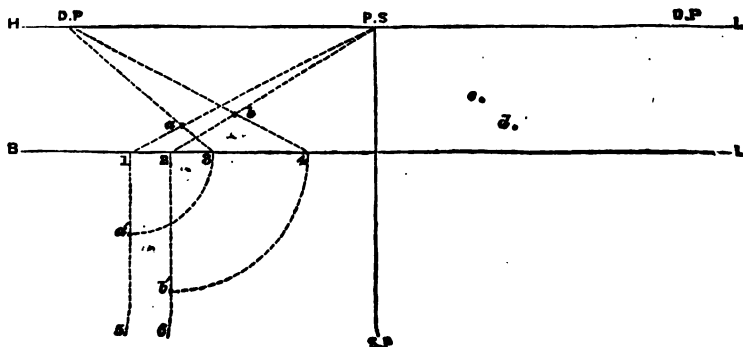


Fig. 11.

Given—the representative lines and points, and points *a* and *b* within the picture.

Required—the representation of *a* and *b* on the original plane, or, in other words, a *plan* of the points *a* and *b*.

From *ps* draw a line through each point, *a* and *b*, to the Base Line. From the points of intersection 1 2, draw lines on the original plane parallel to the Line of Direction as 1 5, 2 6. These lines are the original representations of the perspective lines vanishing in the Point of Sight. From *DP* draw a line through each of the points *a* and *b* to the Base Line. The length 1 3, is the original length of the line 1 *a*; and so 2 4, of 2 *b*. From point 1, lay down on line 1 5, the length 1 3; and on 2 6, from point 2, lay down the length 2 4. The points *a'* and *b'* are the points required.

PROBLEM II.—Find the positions of the perspective points *c* and *d* on the original plane.

EXERCISE III.

PROBLEM III.

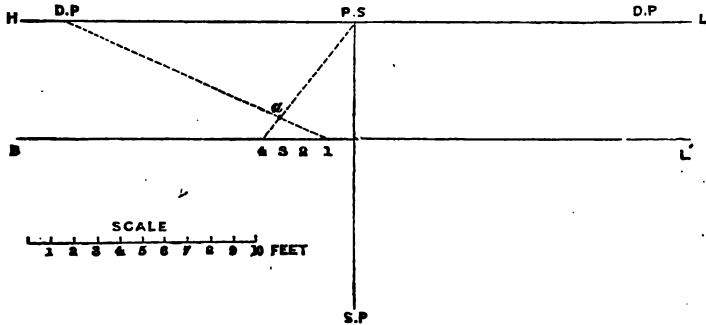


Fig. 12.

Given—the representative lines, and points, and scale.

Required—the perspective representation of a point four feet to the left of the spectator, and three feet within the picture.

From the Line of Direction measure off four feet on the Base Line. From point 4 draw a line to *ps*, and from *DP* draw a line to point 1. The point of intersection, *a*, is the point required.

PROBLEM III.—Give the perspective representation of two points, one six feet to the right of the spectator, and two feet within the picture; and the other, five feet to the right and six feet within; and join these two points by a straight line.

THE CAT IN WAR.—The following announcement appeared in the *London Gazette* of the 17th November, 1761:—"The French have demanded from the country of Eischsfeld and Hohenstein four hundred cats; one hundred had been already delivered to them. The motive for the demand is, that the mice eat up their magazines." After this, who shall cast a doubt on Whittington, whose feline favourite must indeed have been a veritable tortoiseshell?—Carter's "*Curiosities of War*."

NOTES OF A LESSON ON CHEMISTRY.

II.—ON THE NON-METALLIC ELEMENTS.

- | | |
|------------------|------------------|
| I. Introduction. | VI. Sulphur. |
| II. Oxygen. | VII. Phosphorus. |
| III. Hydrogen. | VIII. Chlorine. |
| IV. Nitrogen. | IX. Iodine. |
| V. Carbon. | |

I. It was mentioned, in the Introductory Lesson on Chemistry, that the ultimate elements were generally divided into the non-metallic elements and the metallic elements. According to the best authorities the non-metallic elements are twelve in number; viz. Oxygen, Hydrogen, Nitrogen, Carbon, Sulphur, Phosphorus, Chlorine, Iodine, Boron, Selenium, Bromine, Fluorine. The most important of these elements are the first eight, about which something will now be separately said.

II. Oxygen is a gas, and one of the most valuable of the non-metallic elements. It was discovered in the year 1774, by Dr. Priestly, who denominated it oxygen, or "the maker of acid." Oxygen gas may be obtained by heating red oxide of mercury, or black oxide of manganese, as well as many other similar substances, in an iron bottle or a glass retort. This gas is widely diffused over our world, and if deprived of it we could not live. A fifth-part of the atmosphere and a third-part of the water is composed of this gas. Oxygen, in its pure uncombined state, has no smell, taste, or colour, and is invisible, and a great supporter of combustion.

III. Hydrogen is an invisible gas, and is the lightest of all known bodies. Its name signifies the "water-former." It was mentioned above that the third-part of water was composed of oxygen; now, the remaining two-thirds are made up of hydrogen; and if these two gases are mixed together and then set fire to, the mixture will explode with a tremendous report, and form water. Though a combustible gas, yet it does not support combustion. For instance, if a lighted taper is put into a jar containing hydrogen gas, it will immediately go out, although the gas will explode. Hydrogen, by a very complex method, can be obtained from water. In consequence of the lightness of this gas it is generally used to fill balloons.

IV. Four-fifths of the atmosphere is composed of nitrogen gas. It has neither smell, taste, nor colour, and is not combustible, nor does it support combustion. This gas is sometimes denominated "laughing gas," and may be obtained by distilling in a retort nitrate of ammonia. Nitrogen, in its uncombined state, cannot be breathed by animals without suffocation, and if they are made to respire it they die immediately.

V. The most common form of carbon is charcoal, while the most pure form is found in the diamond. The greater portion of all substances derived from the vegetable kingdom is composed of carbon, while it also exists abundantly in animals and minerals. Carbon can be procured by burning most vegetable substances. As an illustration, let a portion of wood be placed in a crucible, covered over with sand, and kept red hot for about a quarter of an hour, when it will be changed into a black, shining, tasteless, and brittle substance, called carbon, or charcoal. Carbon is

used for destroying the bad taste or smell of many offensive bodies. Tainted meat and foul water may be rendered sweet through charcoal.

VI. Sulphur, or brimstone, is a combustible substance of a yellow colour, without smell (unless when rubbed or set fire to), and nearly tasteless. It is the most easily procured of all the non-metallic elements, being often found pure in a state of nature. Sulphur is largely employed in the making of fireworks and gunpowder.

VII. Phosphorus, by a very complicated and dangerous process, can be obtained from a mixture of burnt bones, water, sulphuric acid, nitrate of lead, and charcoal. When pure, it is semi-transparent, and of a yellowish colour; but when allowed to remain in water for some time, it becomes opaque, and resembles white wax. It is extremely combustible, and ought always to be handled and kept in water to prevent it exploding. When phosphorus is exposed to the air, it gradually consumes itself, giving forth a thick white smoke, which smells like garlic, and is very luminous in the dark. If figures are drawn on the wall of a dark room with phosphorus they will appear extremely beautiful. The phosphorus used for such purposes should be fitted in a quill-pen, and frequently dipped in water.

VIII. Chlorine, or chloric gas, was discovered by Sir H. Davy, in 1811. It can be obtained by mixing in a retort three parts of common salt with one of black oxide of manganese, together with two parts of sulphuric acid. This gas can be seen by daylight, it being of a greenish yellow colour, and having a disagreeable taste and smell. Chlorine, with the aid of a little moisture, is greatly employed in bleaching, as it has the power of changing all dry vegetable colours into a yellowish white colour. It is also used to purify places containing noxious smells.

IX. Iodine is an incombustible substance, of a metallic lustre and black colour. Iodine has a peculiar acid taste, and may be obtained by heating together, in a retort, dry sea-weed ground to a powder, peroxide of manganese, and sulphuric acid. It is used for bleaching; and if administered to individuals in small portions, it increases the appetite.

CHARLES F. REDMAN.

ILLUSTRATION.

BY ROBERT STRATTON.

(METHODS, &c.—continued from page 194.)

By this means a great deal of instruction is indirectly conveyed to the minds of the children. Take again the Reading Lesson. When a place is mentioned, you can verbally give a few notices of that place, and of course have the map brought to show its situation; or what is far better, as it interests the children more, and fixes the facts firmer in their minds, sketch on the black-board a plain but accurate map of the country in which the place mentioned is found; its situation in regard to that country; and also, if it be abroad, in regard to our own country. With a little practice all Teachers may acquire this art. It has the advantage, over the printed map, of clearness, as only the places necessary need be marked.

Another help to Illustration is a Diagram. In illustrating a subject by diagrams, it is better, as in the case of the black board, if you can draw

them yourself. Diagrams will chiefly be used in giving gallery lessons. These occurring at regular intervals, time will be allowed for the construction of the diagram. A sketch in Indian ink, or a figure drawn with a small brush and black, will be more clearly seen, better understood, and therefore, in the end, more useful than a purchased drawing. In lessons on natural history this mode of illustration may be profitably employed. In lessons on geography it should also have its place. The lesson for the time being will be confined to a particular part of the geography of a country—as its boundaries, mountains, rivers, &c. For the lesson, a bold outline map of the country should be drawn, with only that part of the geography to be dwelt upon marked in clear characters. The printed map may be used previous to showing your own, to show the position of the country with respect to others, &c.

In illustrating by models and tangible objects, the Teacher may have the models composed of any substance, as wood, card, paper. These models and objects will find a place in lessons on elementary and fractional arithmetic, and in lessons on geometry to a first class. In the latter case the models may consist of pieces of paper or card, cut to represent angles, squares, circles, &c. These will ocularly demonstrate the truth of the proposition asserted. The models must, as in the former case, be accompanied by a clear and concise verbal explanation. These are some of the means of illustration. There are, however, many ways of illustrating which cannot be committed to paper. These an apt Teacher will seize on at the time, and readily adapt them to his purpose. The least passing event in the class will often afford excellent means of illustration. The more frequently you can use an illustration from the children themselves, the better.

ADVANTAGES OF ILLUSTRATION.

These are numerous and important, both to Teacher and Scholar.

1. *To the Scholar.*—Nearly all his faculties may be brought into play through illustration. If your illustration be verbal, he must, before he can comprehend it and make the subject of it his own, use his reasoning powers, his memory being required to retain the knowledge imparted. And here I would remark, that, as the pure verbal illustration requires the use of the conceptive powers of the children, it should seldom be used with young children, without the help of an object to train the perceptive faculties instead of the conceptive, as the too early development of these latter is often injurious to children. In illustrating by diagrams and sketches on the board, you may, besides perception, excite the powers of comparison and memory. One great advantage of illustration, both to Teacher and scholar, is, that every thing once well illustrated prepares the way for something higher; thus, besides pleasantly learning many facts, the road is smoothed for the pupil's further advancement.

To the Teacher.—Beside the advantage stated above, which the Teacher enjoys as well as the scholar, he will find his own faculties trained. To illustrate a subject properly it must be well understood; the condition and capabilities of the children for whom that subject is intended receiving

their due amount of consideration, that the illustrations may correspond in quantity and kind. The Teacher will also be exercised in the use and power of language, as his words must be well weighed, and

Carefully chosen, before spoken.

CRITICISMS.

NOTES OF A LESSON ON THE COCOA-NUT.—(page 179.)

NOTES of Lessons are of two kinds, "*Information Notes*," and "*Teaching Notes*,"—that is, Notes showing *how* the lesson is to be given. The former consist of various items of information on the subject of the Notes, culled from the different books perused by the Teacher, or from his own memory and observation, and arranged in a systematic manner. The latter contain, in addition to the whole of the "*Information Notes*," the "*methods and illustrations*" intended to be used by the Teacher in giving each part of the lesson. In sending "*Notes of Lessons*"—to a periodical perused by thousands in the habit of giving lessons daily—mere "*Information Notes*" should not suffice. Here lies the chief defect of the Notes now under criticism. The contributor of the Notes on the *Cocoa-Nut*, inserted in July last, acts, I doubt not, in the spirit of the excellent suggestion made by you, that correspondents and readers of the PUPIL-TEACHER should consider themselves as members of a Mutual Improvement Society.

The Notes on the Cocoa-Nut are intended for the benefit of all. They fail, however, in their purpose; the reason being, that they are merely Notes of Information, and nothing more. This information can be obtained by any Teacher whenever required. What Teachers want is, not merely information, but the way to use it. Your correspondent has, therefore, omitted the chief part. Again, "*Notes of Lessons*" are written to give an idea of how each part of the lesson is to be given to the children. This is what would be of use to the readers of the PUPIL-TEACHER, and what they wish to know. Taking the Notes upon their merit as Notes of Information, they are distinguished for clearness and conciseness. The arrangement is distinct, though I think the order of it might be improved. Thus, in the natural order of things, the last division of "*How obtained*," would come before the *Manufacture*, as it is difficult to conceive how we can manufacture an article before we have obtained the material. By making the "*Uses*" precede the "*Manufacture*" the lesson would, I think from the arrangement, be more clearly understood by the children, who would also be anxious to hear the latter point explained. Having heard the names of things made from the Cocoa-Nut, they would be interested in learning *how* they were made. It is also more natural for the *How* to come after the *WHAT*.

Hence the arrangement stands thus:—

1. Description of "Nut."
2. Where obtained, or "Where grown."
3. "How obtained."
4. "*Uses*."
5. "*Manufacture*."

This arrangement will give more scope for training—an important feature to be considered, both in the preparation and delivery of lessons. As Notes of Information, they are quite full enough. Had your correspondent, who has evidently a good talent for analysis, set against each point the method in which *he* intended it should be brought before children, it would have taken but little space, and rendered the Notes much more useful. This would have entailed another duty on your correspondent, viz., to state the class of children for whom the lesson was designed—a particular *quite omitted* in the Notes. Thus:—

NOTES OF A LESSON ON THE COCOA-NUT, FOR CHILDREN FROM 7 TO 9 YEARS OF AGE.

Where Grown.—India, Ceylon; Africa, South America.

Places to be shown on the map. Teacher may either state that the cocoa-nut is found in hot countries, and get children to name some; or name them, and deduce from their position that the cocoa-nut grows only in hot countries.

Again, in the *Manufacture*, the coarse fibres of the husk must be separated, previous to combing and carding, otherwise than in slices—as expressed in the Notes. This part of the lesson might be illustrated by allusion to the manufacture of “linen” from FLAX.

ROBERT STRATTON.

In the description of the Cocoa-Nut we are informed that it is destitute of leaves and branches till near the top; and then at the last paragraph it is stated—They are obtained by means of a kind of hoop round the trunk and their bodies, which they hook on the notches by the old leaves or branches falling off. Now if there are no leaves or branches till near the top, (p. 1,) how can they be obtained by the method described?

J. F.

GEOGRAPHICAL LESSON—MALTA.—(p. 181).

“PEN DINAS,” in this lesson, seems to have followed the usual style of most modern authors as regards the arrangement of his matter. In the humble opinion of the writer, the framework of a lesson should serve a *double* purpose; it should be an aid to the Teacher, and at the same time to the memories of the children. Here are 8 divisions. Were one of a class required to write from memory this lesson after having been given to them, he would have to recollect each of these 8. Now, if instead of 8 he only had 4 to think of, “Pen Dinas” must readily see that the task would be much easier.

Instead, then, of “2, Names,” and “8, History,” “History” might be employed.

Again, “5,” “6,” “7,” might be compressed into one head, viz., “Inhabitants.” The skeleton then would stand thus:—

I. *Position.*

II. *Physical Features.*

- (a) Extent.
- (b) Surface.
- (c) Soil.
- (d) General Description.

III. *Inhabitants.*

- (a) Population, *i. e.* number of
- (b) Religion and Education, of
- (c) Towns, *i. e.* dwellings of
- (d) Government of

IV. *History.*

(I have tried both ways, and have found this to succeed best.)

E. KRUOB.

NOTES OF LESSON ON *FISH*.

INTRODUCTION.

EDUCE from class the name of most of those animals that live in the sea.

DESCRIPTION.

Or what they look like. Form of fish well [adapted] for the [element] in which they live. Some fish amongst largest of animals, while some are amongst smallest,—body, long,—gradually gets smaller towards head and tail,—most fish covered with *scales*, which differ considerably in shape ;—scales sometimes marked with [minute] lines, and exhibit brilliant colours, which make them look very beautiful, especially if seen in water when sun shines. [Cold blooded animals,] they have *fins* instead of feet, and [*respiration*] is carried on by *gills*,—fins help to [propel] them through water,—young produced from eggs,—sense of sight, very good,—eye, round.

DISTRIBUTION.

Fishes are found in oceans, seas, rivers and lakes, certain [limits] which they seldom pass.—Some fish live in [temperatures] which persons would suppose they could not possibly live. Thus, fishes have been discovered in hot springs ; and Humboldt, a celebrated American traveller, tells us, that he found them thrown up alive from the bottom of an [exploding volcano,] with water nearly at the boiling point. Also found in ice in [*congealed*] state ; with gradual thawing of ice, life returns. In North of Europe Perch and Eels, are often [transported] from place to place in frozen state. Same species or kind will thrive in very cold and very hot climates. The delicate Gold-fish has been known to thrive so.

FOOD.

Most large fish live upon smaller ones. Many live upon [marine vegetables.] Star fish, and other similar animals, are also eaten, although their bodies are so well defended. Very [voracious.]

N.B. Words, and sentences, in brackets, to be explained, those in *italics* spelt.

FRANCIS T. READ, Bristol.

INTERNATIONAL EXHIBITION, 1862.—At the weekly meeting of the Council of the Society of Arts, Commerce, and Manufactures, held on Wednesday, the 16th of May, the Secretary reported that the Guarantee Fund was steadily progressing, and now amounts to £239,950.

SOLITUDE.—Those beings only are fit for solitude who like nobody, are like nobody, and are liked by nobody.—*Zimmerman*.

Notes and Queries.

. We wish it to be distinctly understood that we do not guarantee that all the *notes, replies, &c.*, are correct. Criticisms on lessons, parsing, &c., are requested. The Subscribers to the "Pupil-Teacher" should consider themselves as members of a Mutual Improvement Society, and regard our periodical as their medium of intercommunication.

Our Notes and Queries are of three classes:—

I.—Mathematical.

II.—Philological, including Grammar, Paraphrasing, Composition, &c.

III.—Miscellaneous, including all questions on subjects of Study or Method.

Questions of Discipline or Management, affecting Pupil-teachers, are discussed in the EDITOR'S COUNCIL.

In sending Answers, merely refer to the number and page thus:—"Mathem. No. —, p. —;" "Philol. No. —, p. —;" "Miscell. No. —, p. —."

N.B.—The number refers to the *query*, not to the "Pupil-Teacher."

MATHEMATICS: PROBLEMS, &c.

32. (ANNIE.)
$$x_2 - \sqrt{3(x+1)} = 1$$

A solution by quadratics.

33. (SEDIS.) Find two numbers such that their sum shall be equal to the sum of their squares.

34. (T. J. C.) Divide the sum of $\frac{a+1}{a-1}$, and $\frac{a-1}{a+1}$ by their difference.
(Prof. Thomson's *Elem. Treat. on Alg.*)

35. (T. J. C.) In the last Exercise change a into $\frac{a}{b}$ and thus prove that if the sum of $\frac{a+b}{a-b}$ and $\frac{a-b}{a+b}$ be divided by their difference the quotient is $\frac{a^2+b^2}{2ab}$.

36. (CYMREIGES GLAN TOWEY.) Find G. C. M. of $a^3 + x^3$ and $a^2 + 2ax + x^2$.
(Foster's *Algebra*.)

37. (F. G.) A sum is laid out in the 3 per cents. at 89 $\frac{1}{8}$, and a half year's dividend received upon it; the stock being then sold at 94 $\frac{1}{8}$ and the whole increase of capital being £54, find the original sum laid out.—(Colenso's *Arith.* p. 112, Ex. 17.)

38. (H. E. E.) A starts upon a walk at the rate of 4 miles an hour; and after 15' B starts at the rate of 4 $\frac{1}{2}$ miles an hour: when and where will he overtake A?

39. (\pm) Solve the Equations—

$$x^2 + y^2 = a.$$

$$x^3 - y^3 = b.$$

40. (\pm) A drunkard to reform himself bought a bottle of gin, and took from it each morning a glass and refilled it with water; what proportion of the original liquid remained in the bottle after partaking the n th glass, supposing the bottle to hold 10 glasses?

41. (W. G. W.) Find by Algebra the maximum and minimum values of $\cos. 2x \sin x$.—See Woolhouse's *Diff. Cal.* page 104.

PHILOLOGICAL : QUERIES, &c.

(URBAN.) Parse the italicised words in the following passage :—

"I thank you *both* for your good wills ;
Ye speak *like* honest men : *pray* God ye prove so.
But *how* to *make* ye suddenly an answer
In such a point of weight, so *near* mine honour,
(More near my life, I fear,) with my weak wit,
And to such men of gravity and learning,
In truth I know not."—*Shaksp. H. VIII., Act 3, Sc. 1.*

(SPZS.) 1. Analyse the following passage. 2. Parse the words in *italics*.
3. Shew between what words the prepositions express relationship.

"To whom the wily *adder*, *blithe* and *glad* :
Empress! the way is *ready* and, not long ;
Beyond a row of *myrtles*, on a flat,
Fast by a fountain, one small thicket *past*
Of blowing myrrh and balm : if thou *accept*
My *conduct*, I can bring thee thither soon."
—*Milt. Par. Lost, B. ix. 626.*

MISCELLANEOUS : QUERIES, &c.

18. (W. G. W.)—What is the difference, in a religious point of view, between faith and assent?

19. (W. R. B.)—In Isometrical drawing the scale is as 9 to 11, What is the probable reason of this?

20. (TACEO.)—What is the chief difference between a gallery lesson and a class lesson? How would you arrange four classes in the gallery of a class room, and in what part of the room should you wish the window to be? *S. Examination.*

MATHEMATICS : SOLUTIONS.

25. (p. 102).

The following will be found a correct solution, an error occurring in the solution of N. Sanderson on p. 132.

$$(2 - 1) - (x + y + z)(x - y) = 18 \text{ (A)}$$

$$(x + y + z)(y - x) = 18 \text{ (B)}$$

$$\therefore A \div B \text{ gives } y = \frac{x + z}{2}$$

Substituting value of y in (1) and (2) we have

$$(1) 7x + 4xz + z^2 = 52$$

$$(3) x^2 + 4xz + 7z^2 = 106$$

$$\therefore (3 - 1) \text{ gives } z = \sqrt{x^2 + 24}$$

Substituting this value of z in (2)

$$2x^2 + x\sqrt{x^2 + 24} = 7$$

$$\text{whence } x = 1$$

$$y = 3 \text{ from (1)}$$

$$\text{and } z = 5 \text{ from (2)}$$

OMEGA.

27. (p. 134).

A.—The reduction in the price of wheat, per quarter = 18s. and the diminution of rent (15 per cent.) = $\frac{3}{20}$ of the greater rent.

$$\therefore 18 \times \text{No. of qrs.} = \frac{3}{20} (1920 + (56 \times \text{No. of qrs.}))$$

$$\text{Which gives } \frac{48}{5} \times \text{No. of qrs.} = 288.$$

$$\therefore \text{No. of qrs.} = 288 \div \frac{48}{5} = 30.$$

AARON SMITH.*

Similarly: Stephen Edwards; Nemo; Billicer; Trigon; Urban; N. Sanderson; Barlow; Robert Stratton; Henry Briggs; Thomas E. Jones; and others.

B.—By Double Position.

Suppose No. of qrs. = 20
then £96 \times 20 qrs. @ 56/ = £152
and £96 \times 20 qrs. @ 38/ = £134.
thus the £152 is diminished to £134.
should be diminished to £159 $\frac{1}{2}$

15 per cent lower:

\therefore the first error too much by £4 $\frac{1}{2}$.

Suppose No. of qrs. = 10
then £96 \times 10 qrs. @ 56/ = £124
and £96 \times 10 qrs. @ 38/ = £115.
thus the £124 is diminished to £115
should be diminished to £105 $\frac{1}{2}$

15 per cent lower:

\therefore the second error too much by £9 $\frac{1}{2}$.

$$\begin{array}{r} \therefore 20 \quad 10 \quad 0\frac{1}{2} \\ 4\frac{1}{2} \times 9\frac{1}{2} \quad 4\frac{1}{2} \\ \hline 48 \quad 192 \quad 4\frac{1}{2} \text{ difference.} \\ \quad 48 \quad \quad \quad \hline \end{array}$$

$$4\frac{1}{2} \overline{) 144} \text{ difference of products.}$$

Answer:—30 Quarters.

T. DENHAM.

And others.

28. (p. 134.) The proposer, evidently, mis-stated the question.

a—As the question stands the answer would be:—

Coaches $104\frac{2}{7}$, Chaises $417\frac{1}{7}$, Ridden Horses $312\frac{6}{7}$, and Foot-passengers $834\frac{2}{7}$.

The following correspondents, however, have overlooked the absurdity, and allowing the abstract possibility of fractions in the case, have solved the problem as it is proposed, and obtained the above result:—

Abercrombie; S. Edwards; Campeltown; Billicer; Robin Hood; Suum Cuique; Iva; T. Denham; W. A. Rothwell; Jacobus; N. Sanderson; Alexander; Trigon; Dudley Dumps; A Youth; and others.

* Would respectfully remind those who are so anxious to make arithmetic do the work of Algebra, that if simplicity be their object, they are very likely to lose it. The solution of the foregoing question belongs properly to Algebra.

8—Let the amount = £18 4s., then

Let x = No. of coaches, which will pay x shillings.

$$\begin{array}{rclcl} 4x & = & \text{chaises,} & & \frac{4x}{3} \\ 3x & = & \text{horses,} & & \frac{x}{2} \\ 8x & = & \text{passengers} & & \frac{2x}{3} \end{array}$$

$$\therefore x + \frac{4x}{3} + \frac{x}{2} + \frac{2x}{3} = \frac{7x}{2} = 364, \text{ whence } x = 104, \text{ the No. of coaches;}$$

chaises = $4x = 516$; horses = $3x = 312$; and passengers = $8x = 832$.*

AARON SMITH.

Nemo; Robert Stratton; Oliver Cromwell; F. Billingham; William Thackray; Urban; and others.

7. A large number of correspondents assume the amount to be £18 8s. Various other amounts have been assumed, so as to avoid the absurdity of fractions.

29. (p. 134). The proposer, evidently, mis-stated the question.

The reading, probably, should be *either*

I. $A + B = 10$ d., and $A = 18$ d., or

II. $A + B = 8$ d., and $A = 10$ d.

I. a. A does $\frac{1}{18}$ in 1 day

$A + B$ do $\frac{1}{10}$ in 1 day

$$\therefore B \text{ does } \frac{1}{10} - \frac{1}{18} = \frac{18 - 10}{180} = \frac{8}{180} = \frac{2}{45} \text{ in 1 day}$$

$$\therefore B \text{ does } \frac{1}{45} \text{ in } \frac{1}{2} \text{ day}$$

$$\text{and } \frac{45}{45} \text{ in } \frac{45}{2} = 22\frac{1}{2} \text{ days. Ans.}$$

Iva.

Mnemon; Urban; H. Taylor; Billicer; A Romillyite; Quentin; *Μικρω*; Thomas; E. Jones; Abram Sturrock; Lucilla; John Nixon; William McCord; John Smith; Barlow; T. Denham; Robert Stratton; Oliver Cromwell; Abercrombie; Robin Hood; James Fenton; Stephen Edwards; Aaron Smith; Annie; Constans.

β.

Let x = time required
then from the question

A and B together do $\frac{1}{18}$ in one day;

A does $\frac{1}{10}$ in one day;

B does $\frac{1}{10} - \frac{1}{18}$, or $\frac{1}{x}$ in one day;

$$\therefore \frac{1}{10} - \frac{1}{18} = \frac{1}{x}$$

By solution $A = 22\frac{1}{2}$ days. *The Answer.*

Alexander Pirie; J. D.

WILLIAM THACKRAY.

* A general solution may be had by letting y = No. of shillings received, then
coaches = $\frac{y \times 2\frac{1}{2}}{7}$ &c.

II. A's daily work + B's daily work = $\frac{1}{8}$ the work.

$$\text{A's daily work} = \frac{1}{10}$$

$$\therefore \text{B's daily work} = \frac{1}{8} - \frac{1}{10} = \frac{1}{40}$$

\therefore B could do it in 40 days.

NEMO.

Urban; J. W. Mills; Campbeltown; and others.

30. (p. 134).—a.

$$\text{Put } \frac{px^2 + qb^2}{(px - qb)b} = m \text{ a minimum.}$$

$$\text{then } \frac{px^2 + qb^2}{px - qb} = m;$$

$$\frac{px^2 + qb^2}{px - qb} = m \Rightarrow px^2 + qb^2 = mpx - mqb,$$

$$px^2 - mpx = -qb(m + b);$$

$$x^2 - mx = -\frac{qb}{p}(m + b)$$

$$x^2 - mx + \frac{m^2}{4} = -\frac{qb}{p}(m + b) + \frac{m^2}{4} = m^2 - \frac{4qb}{p}(m + b)$$

$$\therefore x = \frac{m}{2} \pm \frac{1}{2} \sqrt{m^2 - \frac{4qb}{p}(m + b)} \dots\dots (a)$$

From which we infer that when x is a minimum $m^2 = \frac{4qb}{p}(m + b)$; and
 $\therefore x = \frac{1}{2} m$.

$$\text{since } m^2 = \frac{4qb}{p}(m + b); m^2 - \frac{4qb}{p}m = \frac{4qb^2}{p},$$

$$m^2 - \frac{4qb}{p}m + \frac{4q^2b^2}{p^2} = \frac{4qb^2}{p} + \frac{4q^2b^2}{p^2} = \frac{4q^2b^2}{p^2} \left(\frac{p}{q} + 1 \right)$$

$$m - \frac{2qb}{p} = \pm \frac{2bq}{p} \sqrt{\frac{p+q}{q}}$$

$$\therefore m = \frac{2qb}{p} \left\{ 1 \pm \sqrt{\frac{p+q}{q}} \right\}$$

$$\therefore x = \frac{1}{2} m = \frac{qb}{p} \left\{ 1 \pm \sqrt{\frac{p+q}{q}} \right\}$$

S. EDWARDS.

β .

$$\text{Put } \frac{px^2 + qb^2}{(px - qb)b} = m;$$

$$\text{then } x^2 = bmx - \frac{qb^2(1+m)}{p}$$

$$\text{therefore } x = \frac{1}{2} bm \pm b \sqrt{\frac{1}{4} m^2 - \frac{q}{p}(1+m)}$$

Now, it is evident that m is a minimum, when

$$\frac{1}{4} m^2 = \frac{q}{p}(1+m);$$

$$\text{hence } m^2 = \frac{4q}{p}(1+m);$$

$$\text{therefore, } m = \frac{2q \pm 2 \sqrt{q^2 + pq}}{p}$$

$$\text{Consequently, } x = \frac{1}{2} bm = \frac{bq \pm b \sqrt{q^2 + pq}}{p}.$$

W. G. W.

31. (p. 134).

$$\begin{aligned} xy &= x + y \quad (1) \\ xz &= 2(x + z) \quad (2) \quad \text{Question;} \\ yz &= 3(y + z) \quad (3). \end{aligned}$$

From (1) $xy - x = y$, $\therefore x(y - 1) = y$, and $n = \frac{y}{y-1}$

Substituting this value in (2)

$$\text{we get } \frac{yz}{y-1} = 2 \left(\frac{y}{y-1} + z \right)$$

$$yz = 2y + 2yz - 2z$$

$$\text{and } yz + 2z = 2y$$

$$\text{but } yz - 3y = 3z \quad (3)$$

$$\therefore 5y = -z$$

$$\text{and } y = -\frac{1}{5}z.$$

Substituting this for y in (3)

$$\text{we have } -\frac{z^2}{5} = -\frac{3z}{5} + 32;$$

$$\text{whence } z = -12$$

$$\therefore y = -\frac{z}{5} = +\frac{12}{5} = 2\frac{2}{5}$$

$$\text{and } x = \frac{y}{y-1} = \frac{12}{7} = 1\frac{5}{7}$$

$$x = 1\frac{5}{7}$$

$$y = 2\frac{2}{5}$$

$$z = -12.$$

OMEGA.

N. Sanderson; Billicer; Annie; Urban; H. Briggs; J. Miles; Campbelltown; T. S.; Tailbach; Nemo (who says "For this example see *Wharton's Solutions in Algebra*, Part IV., p. 100, Ex. 84); Aaron Smith; Alexander; Robin Hood; Robert Stratton; Abercrombie; Stephen Edwards; and others.

MISCELLANEOUS: ANSWERS, &c.

15. (p. 188.) Examination of Pupil Teachers at the end of the fourth year.

"One *whole* question (at least) in each of the Eight Sections of this paper must be answered."

SECTION I.—HOLY SCRIPTURE.

Quest. 1. Give an outline of the history contained in the 2nd Book of Samuel, or the Books of Ezra and Nehemiah.

Quest. 2. Show what is the principal lesson we may learn from each of the following parables:—The Prodigal Son; The Good Samaritan; The Sower; The Unjust Steward; The Tares; and The Labourers in the Vineyard.

SECTION II.—CATECHISM.

Quest. 1. What is meant by keeping the Commandments "in the letter"? Show from the Duty towards your Neighbour that the last six commandments must also be kept in Spirit?

Quest. 2. Enlarge and explain each petition in the Lord's Prayer, in the answer, beginning:—"I desire my Lord God our heavenly Father."

SECTION III.—LITURGY.

Quest. 1. Write out the Nicene Creed or the General Confession.

Quest. 2. Explain the words in *italics* in the following passage:—"Christ our *Passover* is sacrificed for us, therefore let us keep the Feast. Not with the *old leaven*, nor with the *leaven of malice and wickedness*, but with the *unleavened bread of sincerity and truth*."

SECTION IV.—COMPOSITION.

Quest. 1. Of what class have you been teacher? What subjects have you taught the children? Have you ever kept a register, and if so, what particulars have you entered in it?

SECTION V.—MATHEMATICS.

Arithmetic. (For FEMALES only.)

Quest. 1. If £165 will pay the wages of 7 persons for 18 months, for how long will £75 pay 3 persons?

Quest. 2. If 9 persons spend £120 in 8 months, how much will serve 24 persons 1 year 4 months?

Ques. 3. Add $2\frac{3}{4}$ of a guinea and $\frac{1}{3}$ of $\frac{4}{5}$ of £3 15s. 7½d.

Quest. 4. Express 4 bus. 1 pk. 1 gal. 2 qts. in the fraction of a quarter, and reduce 5 cwt. to lbs. Troy.

You must answer one question in Interest, Algebra, and Euclid.

Interest.—(For MALES only.)

Quest. 1. What principal will amount to £35 at $4\frac{1}{2}$ per cent. for 18 months?

Quest. 2. What is the discount of £18 13s. 4d., payable at 9 months, at $4\frac{1}{2}$ per cent?

Quest. 3. In what time will the interest on £198 10s. 8d. amount to £10 9s. 3½d. at $6\frac{1}{2}$ per cent?

Algebra.

Quest. 1. Reduce to its simplest form $(a^3 - 2a^2c + 3ac^2) - (a^2c - 2a^3 + 2ac^2) + (a^3 - ac^2 - a^2c)$.

Quest. 2. Multiply $x^2 + 2ax + 3a^2$ by $x^2 - 2ax + a^2$.

Quest. 3. Divide $x^4 - 81y^4$ by $x - 3y$.

Euclid.

Quest. 1. To a given straight line to apply a parallelogram equal to a given triangle, and having an angle equal to a given rectilineal angle.

Quest. 2. Equal triangles upon the same base and upon the same side of it, are between the same parallels.

Quest. 3. If one side of a triangle be produced, the exterior angle is greater than either of the interior opposite angles.

Quest. 4. The greater angle of every triangle is opposite to the greater side.

SECTION VI.—GRAMMAR.

Quest. 1. Conjunctions are said to abbreviate language. Can you explain what is meant by this?

Quest. 2. Analyze the following :—

Two principles in human nature reign,
Self-love to urge and reason to restrain;
Nor this a good nor that a bad we call:
Each works its end to move and govern all.

Quest. 3. Make out a list of all the most common prefixes and affixes. Show how each of them affects the meaning of the word to which it is attached.

Quest. 4. Decline three of the following words—iste, qui, homo, ferox, fructus, facies.

SECTION VII.—GEOGRAPHY.

Quest. 1. Give an account of the physical features of Africa. What proportion does this continent bear to the others, in (a) extent and (b) population?

Quest. 2. Draw a map of the southern coast of Asia, from Suez to Canton.

Quest. 3. Name the chief natural productions of Asia.

Quest. 4. Name the chief natural productions of Africa.

SECTION VIII.—ENGLISH HISTORY.

Quest. 1. What events in English history are connected with the following places? Give if you can the date of each of them. St. Alban's, North Allerton, Clarendon, Tewkesbury, Barnet, Hexham, Shrewsbury, Runnymede.

Quest. 2. State what you know of King Alfred, or Richard I.

ABERCROMBIE.

12. (pp. 134, 138).

a.—I presume to think that these remarks upon Dr. Gordon's argument will render the same intelligible to your correspondent "W. G. W."

1. "A body only occupies a space equal to itself."

This is self-evident; but when a body is in motion, it does always fill the same place (although it always fills a space equal to its bulk), but is leaving a space it has already formed, and entering another it is forming. Here it may be remarked, that as the body moves from the space formed, the air rushes in and fills up the vacuum; and that while the body is forming another it is forcing the air from its place.

2. "It cannot hold two spaces at one time."

"W. G. W." will, by remark 1, see the explanation of this affirmation.

3. "It cannot move where it is."

Your correspondent though must be well aware that it can move from where it is.

4. "It cannot move where it is not."

Here, again, he must be well aware that it can move to where it is not.

5. "It does not move at all."

If what Dr. Gordon has said be applied to the body in one sense, this latter affirmation of his is true; but an intelligent mind observes that what Dr. Gordon has said is nothing more than observations he has made, and which are self-evident; but, sir, I fear that I shall take up more than the proper allowance of space, and therefore will cut it short by recommending "W. G. W." to compare these remarks with the Doctor's argument, when he will clearly understand it.

PHARAMOND.

β.—I consider that your correspondent, "W. G. W.," is not exactly correct in his answer. He says, "That the locomotive occupies the same period for a *certain time*;" small it may be, even so small that we can hardly form an idea of it; yet nevertheless it is a period of time; and therefore I think that when he states that "*that time is no time at all*," he commits a very great error.

BIENHEIM.

PHILOLOGICAL: PARSING &c.

α—

3. (p. 11).—ANALYSING.

(a) And made his grove.—Forms with *d*, prin. clause.

(b) The pleasant valley of Hinnom.—Secondary, adjunct. to *a*.

(c) Topheth thence.—Secondary: adverbial to *a*.

(d) And black Gehenna called.—Secondary, same as *c*.

(e) The type of hell.—Forms, with *a*, prin. clause.

ROBIN HOOD.

β—(a) And (He) made his grove the pleasant valley of Hinnom,—principal sentence to *b*.

(b) Topheth thence, and black Gehenna call'd, the type of hell,—adverbial clause of consequence to *a*.

[Or this might be considered *three* adverbial clauses of consequence

—(1) thence called Topheth—(2) thence called black Gehenna—(3) thence called the type of hell.]

AARON SMITH.

Similarly to β,—Mira, James Reid, James T. Tolley, Tristis, and others.

PARSING.

(Six best papers arranged by the Editor).

1, Arthenice; 2, Patience; 3, Leonidas; 4, Aaron Smith; 5, Robin Hood; 6, Mira; *all.

Made, v. irr. trans. ind. past, 3rd sing. agr. with *he* unders.*

Grove, n. sing. neu.* obj. (*made*) 2, 4, 5, 6; (*of unders.*), 3; nom, (*become unders.*) 1,

Pleasant, adj. pos. (*valley*).*

Valley, n. com. sing. neu. nom. in app. (*Grove*) 1, 3, 4; obj. (*in unders.*) 2, 6; (*of unders.*) 5; 4, would allow this construction.

Topheth, n. prop. neu. sing.* obj. (*called*) 1, 2, 3, 6; nom. 4, 5.

Thence, adv.* *Gehenna*,—(same as *Topheth*).*

Call'd, past, part.* (omitted by 1).

Type, n. com. 1, 3, 4, 5, 6; abst. 2; neu. sing.* obj. (after *become* unders.) 1; (by *made*), 3; (after *called*) 6; nom. (after *is* unders.) 2; (in app. with *Topheth*) 4, 5.

Hell, n. prop. 1, 2, 3, 4; com. 5, 6; neu. sing. obj.*

The three next best:—J. T. Tolley, Tristis, J. Reid.

α—

10. (p. 134).—PARAPHRASING.

Lord, how elaborate is the provision which thou hast made for our eternal welfare. At the knee of our parents we first imbibe Thy holy precepts; a little older, and the school-master, fulfilling his pious calling, instructs us in all Thy laws; teaching us that, to obey them perfectly, reason must ever be the polar-star of our life. Sabbath-day ordinances, remorse still following crime, trials admirably adapted to the occasion, troubles small and great, all are designed to wean us from below. The Scriptures freely circulated, their treasures unlocked before our eyes, numberless remarkable and unlooked-for events, blessings vouchsafed even before we ask them, binding us with cords of deepest gratitude, the "Better Land" ever held up to our view, public shame dreaded, conscience warning, angels guarding, and Divine aid protecting, the hope of heaven and the fear of hell, all powerfully tend to holiness—yet all, ay all, by one besetting sin may be rendered, alas! of no avail.

AARON SMITH.

The three next best, in order of merit are, *Μικρὰ*, Troisième, Annie (*Margate*).

β— *What*, adj. qualif. "care."

Bound, past part. of verb "to bind."

Dogging, pres. past. gov. sin in obj.

Surprises, noun. com. sing. neut. obj. gov. by "of."

Shame, noun. com. sing. neut. nom. to "is," understood—"Without *is* our shame."

AARON SMITH.

[Should not *bound* be perfect participle? *Surprises* is not a collective noun, we presume that our friend has inadvertently written *sing.* for *plur.*—Ed.]

What, Some have parsed it as an inter. pron.; others as a rel. pron.

Editor's Exercises.

ENGLISH GRAMMAR.

4. (a) Paraphrase the following lines. (b) Parse (separately) the words in italics.

"I'll *prove* the word that I have made my *theme*,
Is *that that* may be doubled without blame,
And *that that that that* critics may abuse
May be correct. Farther, the *Dons* to bother,
Five *thats* may closely follow one another!
For be *it known that* we may safely write,
Or say—that *that that that that* man wrote was right.
Nay e'en, *that that that that that* has followed
Through six repeats the grammar's rule has hallow'd
And *that that that that that that that* began
Repeated seven times is right!—Deny't who can?"

HISTORICAL GEOGRAPHY.

12. Write out, methodically and briefly, historical notes relative to Newbury, Berks.

[NOTICE.—Answers to nearly all the Editor's Exercises are prepared for publication—they are omitted in order that there may be no arrears of Answers to the *Notes and Queries*. Several pages of Answers will be given in our next.]

Recreative Exercises.

*** The Proposer is, in each case, required to forward to the Editor the Answer in detail, with the Exercise.

XV.—The *initials* of the following will give one of the most distinguished of English historians. The *finals* will give his birth-place.
 A river of Africa, with a course of upwards of 1,000 miles.
 A town which surrendered to the Swedes in 1645.
 A town at which a battle was fought on Easter Sunday, 1471.
 A salt lake into which a little stream, celebrated in Persian song, flows.
 The largest of the Society islands.
 A province in France which has furnished England with several sovereigns.

ESSAYEZ.

XVI.—The *initials* will give the name of a work which every Pupil-Teacher ought to read. The *finals* will give a word which ought to be applicable to every Pupil-Teacher. *Note*.—They are both "compound words."

A British possession in further India.
 A town in the States of the Church, Italy.
 A town in New Granada, South America.
 A large island to the North-West of Europe.
 A town in Norfolk.
 A river in India.
 A town in Armenia, Turkey in Asia.
 A seaport and fortress in Belgium.
 A county in England.
 A province in Arabia.
 A lake in North America.
 A cape in Arabia.

W. H. B., and J. C. CONISTON.

XI.—(p. 163).—AnderuM—UxbridgE—StockwelL—Tomb—Rio JaneirO—
 AczU—LeinsteR—IlnstN—AcrE.

Australia. Melbourne.

MARDEN.

Also: Violet, Jean C.

ANSWERS.

XII.—(p. 163). Amid Reformers, *Calvin* holds
 A high, distinguished place;
 Of Cœur-de-Leon's bravery
 Famed *Acre* once bore trace:
 How sad the fire o'er *Moscow's* walls
 Burst on Napoleon's sight;—
 On *Blenheim's* blood-ensanguined field
 How flashed the armour bright,
 When Tallard's laurels nought availed—for Marlbro' led the fight!
 Close on the Nile's broad Delta still
 Does fair *Rosetta* stand;
 Still "*Iser*, rolling rapidly,"
 Washes Bavaria's land:
 Far on "*belle France's*" northern coast
 Is *Dunkirk*, Charles's shame;
 The dark blue wave of *Galilee*
 To beauty still bears claim;—
 And still 'mid England's heroes bold is *Elliot's* honoured name.
 A county in England is *Cambridge*, I ween;
 And *Newmarket*, for races, long noted has been.

T. DENHAM.

CalviN—AcrE—MoscoW—BlenheiM—RosetiA—IseR—Dunkirk—GalileE—
EllioT.
Cambridge. Newmarket.

CHARLES ASHEN.

Also: S. B., Trout-Fisher, Thrush, Alphonso, A. Romillyite, Bachgen, E. Cryer, Rhodanus, Llandelo, J. Mitchell, J. McMillan, A. Parker, Cymreiges, Delta, C. Knight, J. Garland, J. Gill, S. Hull, Myra, A. Kerr, A. A. Stuart, R. K. H., Greta, R. Stratton, Shakspeare, J. Sinclair, D. K. Evans, J. Popplewell, M. Manuel, Jack, Henriens, Pompey, W. H. B. and J. C. Coniston, A. E. Freeman, M. Maskell, Samuel Malcolm, Abercrombie, Jez, Constans.

The following answer *both* (XI. and XII.):—B. Raker, Jas. Kepple, H. H. Hughes, J. H. Spence, Geo. Mansell, Apollo, Nuemon, J. Hewitson, E. Hughes, Abram Sturroe, J. Fenton

THE TEACHER'S OFFICE.

“Take heed that ye despise not one of these little ones.”—MATT. xviii. 10.

DESIREST thou a Teacher's work? Ask wisdom from above:

It is a work of toil and care, of patience and of love.

Ask for an understanding heart, to rule in godly fear

The feeble flock of which the Lord hath made thee overseer.

Alas! thou surely may'st expect some evils to endure—

E'en children's faults are hard to bear, and harder still to cure;

They may be wilful, proud, perverse, in temper unsubdued,

In mind obtuse and ignorant, in manners coarse and rude;

Thou may'st contend with sluggish minds, till weary and depress'd,

And trace the windings of deceit in many a youthful breast;

Yet scorn them not: remember Him who loved His lambs to feed,

Who never quench'd the smoking flax, nor broke the bruised reed;

Who for the thankless and the vile pour'd out His precious blood;

Who makes His sun to rise upon the evil and the good.

The love of God extends to all the works His hand has fram'd;

He would not that the meanest child should perish unreclaim'd.

Pray that His Holy Spirit may thy selfish heart incline

To bear with all their waywardness as He has borne with thine.

If by example, or by word, thou leadest them to sin,

Thou perillest the precious souls that Jesus died to win;

If thou from indolent neglect shouldst leave their minds unsown,

Or shouldst their evil passions rouse, by yielding to thine own;

Shouldst thou intimidate the weak, and thus destroy their peace,

Or drive the stubborn to rebel by harshness or caprice;

Shouldst thou their kindlier feelings chill by apathy or scorn,

'Twere good for them, and for thyself, that thou had'st ne'er been born.

But oh! what blessings may be thine, when thou hast daily striven

To guide them in the narrow path that leadeth up to heaven;—

What joy to see their youthful feet in wisdom's way remain;

To know that, by the grace of God, thy labour is not vain;

To watch the dawn of perfect day in many a hopeful child;

To see the crooked mind grow straight, the rugged temper mild;—

To mark the sinful habit check'd, the stubborn will subdued;

The cold and selfish spirit warm'd by love and gratitude;

To read in every sparkling eye a depth of love unknown;

To hear the voice of joy and health in every silver tone!

If such the joys that now repay the Teacher's work of love,

If such thy recompense on earth, what must it be above!

Oh! blessed are the faithful dead who die unto the Lord;

Sweet is the rest they find in heaven, and great is their reward;

Their works perform'd in humble faith are all recorded there;

They see the travail of their souls, the answer to their prayer:

There may the Teacher and the Taught one glorious anthem raise;

And they who sow, and they who reap, unite in endless praise!

Correspondence.

PUPIL-TEACHERS' ASSOCIATION.

To the Editor of the PUPIL-TEACHER.

DEAR SIR,—The Pupil-teachers of Lewes have just succeeded in forming a Pupil-teachers' Association, consisting of Pupil-teachers, and also of candidates for Pupil-teachership, meeting on the Friday evening of each week at one of their school-rooms. There is then either a lecture (purely original), a debate, or a reading. The readings will be principally the work of the Female Pupil-teachers, as they are not expected to give original lectures. We also have a little singing to pass the time away merrily, and break up about 8.30, meeting at 7. We have obtained the rules of the Leeds Association, and have them under consideration.

Any other particulars, such as rules, &c., can be obtained by applying (postage prepaid) to

Sir, yours most respectfully,

21, North Street, Lewes.

E. TURNER, Secretary.

NOTICE TO SUBSCRIBERS.

SUBSCRIPTIONS DUE.—Many of our Subscribers who paid for the PUPIL-TEACHER to No. 30, others to No. 33, will see that their renewed Subscriptions have been due some time. No 30 will complete the present volume. The renewed Subscriptions now due should be forwarded early in August, to the publisher.

NOTICE.—In reply to several inquiries, those readers of the PUPIL-TEACHER who find difficulty in obtaining the work on the first of each month, may depend upon its regular delivery on the first of each month, post free, by prepaying for six or twelve months. Stamps may be sent to the publisher for that purpose.

Intelligence.

PUPIL TEACHERS' ASSOCIATION.

THE first half-yearly meeting of the South London Pupil Teachers' Mutual Improvement Society was held June 29th, in the National School, Stockwell. About thirty Pupil Teachers from a dozen schools of the neighbourhood were present. The Rev. G. F. Maclear presided. From the Report it appears that the society numbers about twenty Pupil Teachers, whose attendance has hitherto been very exemplary. Each member is required to read an essay, or to deliver a lesson in his turn, or forfeit 2s. 6d. The meetings are held weekly in various rooms in rotation. The essays delivered have been on subjects relating to historical geography, botany, on method and miscellaneous. Ten lessons have been given on geography, objects, and the steam-engine. At five meetings discussions have been held on method, notes of lessons, and on history. The criticisms on the essays and lessons have hitherto been of the freest character, and have been conducted with remarkable temper and forbearance.

Several of the members addressed the meeting on the objects and advantages of the society, and urged the establishment of a similar society for the Female Pupil Teachers of the neighbourhood—a suggestion which is likely to be carried into effect immediately. A few words of encouragement and congratulation on the progress and conduct of the society, and on the humble self-reliant spirit in which it had been managed, were offered by Mr. Studdle.

The President then made an offer of two prizes for as many essays, to be composed by the members, and delivered at such time as the Committee shall appoint.

RECREATION.—In every community there *must* be pleasant relaxations and means of agreeable excitement; and if innocent are not furnished, resort will be had to criminal. Man was made to enjoy as well as to labour; and the state of society should be adapted to this principle of human nature.—*Dr. Channing.*

Notes to Correspondents.

All Communications for the Editor should be addressed "The Editor of the Pupil-Teacher, 54, Paternoster Row, London, E.C."

METHOD OF ASKING OR ANSWERING QUESTIONS.—Our numerous correspondents would save us an immense amount of labour, and be less liable to disappointment from their communications not being promptly attended to, by attention to the following points:—

1. Write *only* on *one side* of the paper.
2. Keep each subject distinct from others.
3. *Head* each subject thus:—"Editor's Council," "Notes and Queries," "Editor's Questions," &c. &c.
4. Leave a space at the top and at the bottom of the paper.
5. Write your (real or assumed) name on each separate paper.
6. Always let your communications be accompanied by your name and address. For *publication* you may adopt any signature you please.

APPROPRIATED SIGNATURES.

A Briton	Educo	Leon da Vinci	Robin Hood
Abercrombie	Ekrnob	Lilac	R. N. R.
Adela	Elève	Lisa	Rose Villa
Æquabiliter	El-tio-Tomas	Louis	Rufus
Alexander	Essayez	Lawick	Sallie
Alpha	Excelsior	Lucilla	Salvator Rosa
Alphonso	Farquharson	M. A. M.	Sapere Aude
Amelia	F. E. B.	Maggie	Scio
Anglo Saxon	Fergus	Maria	Sedis
Anglus	Fergus (2)	Marianne	Semaj Slig
Annie	Freedom	Mars	Signum
Annie (Margate)	Fresnel	M. A. T.	Silex
Antiquarian	Friar Tuck	Meta	Snowdrop
Apollo	Gevero	Micros	Sobriquet
Artheniee	Go-a-head	Mira	Spy
Barrownook	Gonzalva	Myra	S. T.
B. B.	Greta	Nescio	Taceo
Beautiful England	Hannibal	Nicholas	Timid One
Benedict	Hanover	Nil Desperandum	Tnatsnoc
Beverlac	H. D.	Non Fortuna	Trainer
Bick	Helen	Old Philos	Trigon
Blenheim	Henricus	Omega	Tristis
Black Robin	H. M. S.	Omi	Troisième
Brutus	H. P. S.	One-and-All	T. H. M.
Cabee	Ichabod	Otho	Unknown
Cambria	Ich Dien	Oxoniensis	Unus
Cantor	Inverbrothock	Peccavi	Urban
Clio	Iva	Pen	Vaccine
Constans	Jack	Perseverance	Victoria
Cornwellonian	J. C.	Pestalozzi	Violet
Curl	Jean C.	Philomathes	Vosrochnoi
Cymreiges	Jessie	Pompey	W. D.
Cymro	J. M. G.	Prince Charlie	Welsh Mountaineer
D. A. D.	Joannes	Pner Timidus	Wilmington
Delta	Josephus	Quaesitor	W. G. W.
Domingo	J. V.	Quentin	Zed.
Douro	Kenneth	Quintis	Zenobia
Duorp	Last Rose	R. R. H.	

Thanks.—Cicero; Leonardo da Vinci; W. Davy; W. Riach; Oxoniensis; Maria E.—tt; J. T. Ridley; E. Cyer; Zeta; D. K. Evans; Ekrnob; Alphonso; Blanche; H. M. S.; C. F. Redman; F. Brough; Blenheim; J. N. Hobbs; Iva; Fred. Workman; Violet; J. Hewitson; Ichabod; F. Statten; Cymreiges; Helen;

J. Overend; Constans; J. B. K.; Jessamine; J. H. Spence; Bagdad; Abercrombie; Eliza Hughes; John McMillan; W. A. Rothwell; R. Fishenden; Thomas Mitchell; Jean C; Myra; J. F.; Antiquarian; C. Ashen; J. Nixon; T. L. Simpson; Henricus; A. Parker; A. E. Freeman; Sapere Aude; Apollo; Abram Sturrock; James Fenton; C. Carpenter; E. J. Paul; Meta; R. Waite; D. Davidson; T. J. C.; A. Kerr; M. A. Strutt; James Kepple.

Received.—Ada Seymour; E. Cryer; Sedis; Ekruob; Alphonso; J. M. W.; F. Brough; J. N. Hobbs; Quaesitor; Gevero; Vosrochnoi; Violet; "Go-a-head;" Freedom; Helen; J. T. Evans; J. R.; J. Overend; Constans; W. Wynne; Bagdad; Rees Wilks; W. A. Rothwell; Non Fortuna; W. Wingfield; Quintis; Fresnel; Antiquarian; C. Ashen; Henricus; Sapere Aude; Apollo; J. F. Hinsley; Meta; R. Waite; D. Davidson; T. J. C.; A. Kerr; An American; Industrious.

ANSWERS TO CORRESPONDENTS.

Writing (Aldmonbury).—We like your ordinary hand-writing; it has "character," and its legibility is its chief recommendation—and a very great recommendation that is. Your small-hand copies are very good, but your text, round and large, are poor. You "have it in you," and if you do not succeed as a first-rate copy-setter it will be your fault, not your misfortune. (*One-and-All*).—Fair, we may say "very fair;" but if you wish to show your writing to advantage, use ink instead of Spanish-liquorice water. (*J. M. G.*)—We quite agree with you on one point. But "don't despair,"—practice, practice, practice! (*Victoria*).—At all hazards dispense with pencilled lines. As a rule, we find that those who cannot write tolerably straight without lines, make intolerably crooked (or "slanting-dicular") lines, at unequal distances for writing. Your writing itself is not bad, but its lot is fallen on unseemly "lines." (*Wilmington*).—We can characterize your writing as barely tolerable for a fifth year's. (*J. F.*)—*Ditto*, or, if we must make a difference, *intolerable*; but certainly not incurable. You are too economical of space, and perhaps of time also. (*Jack*).—You employ too much strength in the operation; in other words, you press too heavily on your pen. (*Beautiful England*).—Very neat and very promising. Too stiff; but practice will cure that. (*Henricus*).—We have seen many worse—and some much better—specimens, from *second year's*. (*W. R. R.*)—Poor, and still "going down in the world." (*Cabee*).—Very neat, rather too stiff to be "gentle manly;" but will bear comparison with that of hundreds of certificated masters. (*Caractacus*).—Stiff, but bold and very promising. (*Meta*).—Decidedly good for a female hand; much better than the shower-of-rain style, commonly called angular hand. There are certain unmeaning under-strokes—a sort of substitute for "flourishes,"—which you might profitably dispense with.

Civil Service (Alexander).—Your question is ambiguous. We might answer it either in the affirmative or the negative, and be right. There are offices in the Civil Service which ex-Pupil-Teachers *might* occupy, *if* they succeed in obtaining them.

Professor's Daughter (Ada S.).—The Government would offer no objection whatever. The decision rests with the local managers of the school. We do not think that the fact of her father being a professor of music and dancing would in itself be deemed an objection by the school-managers. But some folks have peculiar notions on such matters.

Queen's Scholarships (J. M. W.).—Expenses of training, board, &c., in a training school are defrayed by the Government. (*J. W. M.*)—Full particulars can be obtained from the managers of any school under Government inspection. (*Lilac*).—Yes. (*Freedom*).—Not true.

Latin Paper (J. M. G.).—Certainly not.

Latin without a Teacher (Oliver Ogborn).—Yes, we will endeavour to ascertain the information you require. There are many works of the kind.

Euclid (Dursley).—The scholarship does not depend upon the number of books. Two *might* be sufficient—six *might* be insufficient. Much necessarily depends on proficiency in other subjects.

Queen's Scholarships (R. Wilks).—We refer you to the Queen's Scholarship Examination Papers, published in previous numbers of the *Pupil Teacher*.—

We recommend you to work up those subjects on which you are most deficient. "*Best" Books (R. W.)*—As a rule we should advise Pupil-teachers to use such text books as their Masters and Mistresses recommend. We have, of course, our predilections—so have most Masters and Mistresses; and, generally, they like best the text-books with which they are most conversant. We are quite willing to admit into our pages remarks or discussions on the relative merits and demerits of school text-books, but we must decline to pronounce dogmatically on the subject, except occasionally in our "notices of books."

Weights and Measures (Dursley).—Your question shall be inserted in our *Notes and Queries* next month.

Durham Training School (W. D.)—We have not heard of any such regulation. We will make inquiry on the subject.

Medical Certificates (B. C. H.)—Not as a rule. Should it seem desirable that such a document be produced, the result will be as is usual in similar cases. If the Pupil-teacher be physically unfit for the teaching-service, he will not be allowed to remain in it.

"*Best" Books (Wilmington).*—See our answer to R. W. (above).

Second Trial (Agricola).—He would, unless there were some special and stated reason to the contrary.

Leaving the Profession (W. W.)—He might try for a Queen's Scholarship, but he would not be likely under such circumstances to get it.

Music (J. N. H.)—Declined with thanks.

Map Projections (W. W.)—We will put your question to our correspondents in our next number.

"*Best" Cheap Map of India (J. F. Hinsley).*—We will inquire for you, but remember, we cannot undertake to answer such a question dogmatically. In maps and books, as well as other commodities, "quality is the test of cheapness." Our aim shall be to tell you which is one of the best of the low-priced maps of India.

Trigonometry (Sedis).—Todhunter's is an excellent work. Galbraith and Haughton's is one which seems to give general satisfaction; its low price is not its chief recommendation.

Conic Sections (Sedis).—

Algebraic Solutions (J. S.)—We thank you for your kind offer, and accept it.

Algebraic Problems (Quiris).—Many thanks. In our September number we will do what you request.

Fifth Year Examination Papers (L. da V.)—We gladly accept your contribution for publication.

Fourth Year Grammar (Mars).—The contribution of our friend Abercrombie (N. & Q. misc. ans. 15), supplies what you require.

Poor Barnard Smith again.—Our *Robin Hood* writes, "I am extremely indebted to your correspondent 'Joseph,' for pointing out what he considers an error in my statement; but reply, that if he will have the kindness to refer to page 345 of the edition dated 1857, he will find that I neither was nor am 'labouring under an optical delusion,' as he supposes. I hope he does not think that the writer had any wish to bring Mr. Smith into disgrace."

Other Answers ready, but kept back for want of space.

Books.—Some books are to be tasted, others to be swallowed, and some few to be digested: that is, some books are to be read only in parts; others to be read, but not curiously; and some few to be read wholly, and with diligence and attention.—*Lord Bacon.*

IGNORANCE.—It is impossible to make people understand their ignorance; for it requires knowledge to perceive it, and therefore he that can perceive it hath it not.—*Bp. Taylor.*

THE WILL AND THE WAY.—Every labour is cheerfully undertaken, every privation is cheerfully endured, if the heart is only in the project. The will not only finds out a way, but is ready to bear everything that is to be encountered in that way.—*T. L. Cuyler.*

THE PUPIL-TEACHER.

UTILITARIANISM.

FARMER HAYRICK, of Poddlington, is a most worthy man; no one could ever say anything against him. He is industrious and he is prosperous; a good neighbour, benevolent to the poor, a kind master, and, in short, as fine a specimen of an English farmer as one could desire to see. He gave a handsome donation towards the erection of schools in the village; he has been induced to become an annual subscriber towards their maintenance; and more than that, he has, though with difficulty, been induced to visit them. He enters the school-room doffing his broad-brimmed "beaver," and smiling good-naturedly on all around him. He has not come to find fault with anybody, or any thing. It is many years since he was last in a school-room; when he was a boy he walked three miles to school and three miles back every day of his life, Sundays and holidays excepted. He never went to more than one school—he was never inside any other school than the one in which he received "all his book-learning," and he has now come to visit the new school, not to satisfy his curiosity—not to appear to be what he is not, an educationist—but simply to oblige the Squire and the Squire's very amiable daughter.

The highly-coloured pictures on the walls attract the farmer's attention; his looks seem to say, "I must have some like them framed and hung in my best room." The diagrams, "The Theory of the Seasons," and "Mechanical Powers," are evidently things beyond his comprehension. He has never beheld a collection of educational appliances; he has never before seen such school-room grandeur. A few furtive glances towards the Master's desk, and to the nooks and corners where "sundries" have been placed, betray curiosity. He makes no inquiry, but a keen observer will perceive that he is looking about for something. Allow us to guess what farmer Hayrick is peering about so sily for. The farmer is looking for the dunce's cap and the birch-rod. He might as well look for a tinder-box or a live mummy.

Now, having looked about him to his heart's content, to the satisfaction of the Master and the Pupil-teachers, and to the delight of all the young Poddlingtonians in school-classes assembled, farmer Hayrick turns his attention from educational apparatus and appliances to actual instruction. The Master is giving a grammar-lesson to the first class; the farmer listens awhile to words of learned length and thundering sound, then walks slowly away, wondering what can be the meaning of what he has heard. He proceeds to another class; a little "first year" is standing at the base of a large map of South America, endeavouring to initiate his class into some of its mysteries. The farmer has known the sharp little "P. T." from his birth; and there is not in the class a child whom farmer Hayrick does not know, and who does not know farmer Hayrick. So the farmer feels more "comfortable-like" at this class than he did at the one presided over by the *stifficated* Master from the Training College. He gazes on the map

as though he were as well acquainted with each place denoted on it as he is with his own farm-yard. Fixing his eye on the big boy in the centre of the class, the farmer ventures to ask him to "point out Chiny" on the map. Our little P. T. opens his eyes, and his mouth too—but the big boy points in no very definite way to a certain portion of South America. His class-mates, no doubt, think him clever. P. T. is about to volunteer an apology for his pupil's ignorance, when our farmer, evidently satisfied with the big boy's proficiency, thrusts his right-hand fist into his left-hand palm, exclaiming, "Whew! I couldn't ha' told that—at his age—I'm *sartin*." At this juncture a door in the school-room is opened, and forth issues a boy, with downcast head, trying to cry, or at the least to look penitent. On he moves towards the Master's desk, the "observed of all observers." "Alloa," exclaims the farmer—pointing to the open door, and staring at it as though he were taking its exact dimensions by his eye—"is that there your lock-up?" "Noa, sir; it's the class-room." "Th' *what* room?" "The class-room." "Oh!" And farmer Hayrick's *looks* say, "I don't know what you mean by a class-room, but I'll find out, without asking, before I go." His eye follows the bad boy to the Master's desk, for he is informed that the boy is "sent in to be punished." The Master leaves his class, proceeds to his desk, opens it, and produces a cane about a yard long. The culprit knows his own part of the business, and holds out his hand with surprising determination; but no sooner does he perceive the cane gravitating towards his out-stretched hand, than the said hand is placed out of harm's way, to the amusement of farmer Hayrick and the little boys, and to the annoyance of the Master. At last, after certain looks and gesticulations, apparently of portentous meaning, the desired—the dreaded, *cut* is given. "Whah!" bawls the boy. "Whew!" exclaims the farmer; and the two make their exit. They are in the class-room;—let us follow them. The boy who has been punished has taken his place in the class; not a tear is in his eye; and but for intermittent nods of unutterable threats or reproaches, *in re* some person or persons unknown, no one would think that he had been punished. The farmer witnessed the punishment—he sees what is visible of its effect, and he is rather curious to know what was the misdemeanor that led to it. Addressing himself to the Teacher, he makes the inquiry. "He wouldn't say who C'racticus was." "Cractus! who's he? What's it about?" "C'racticus, sir; history, sir—History of England." "Yes, ah! hem! Now, what's the good of it? Eh?" "Don't know, sir"—and the Teacher grins something that may mean anything or nothing. "What's the good of Cractus? No! what's it? History, eh, young uns—what's the use of history?" The farmer has learned something of the interrogative method in the short time he has been in the school; and though he really wants an answer to his question, he is not a little pleased to perceive that he has given the "young uns" a poser. There is a boy ready to give him an answer. Amid profound silence the answer is given: "For the 'Spector to azzamon us on!" A bell rings. "Time to close, sir," says the Teacher, with a smirk indicative of his pleasure at escaping further examination.

Home the farmer plods, his head full of the externals, symbols, forms,

ceremonies, and technicalities of Elementary Education. He has seen and heard much that has pleased, much that has surprised him; but nothing that has dissatisfied him. The business-like way in which corporal punishment was administered rather took his fancy. Things of that sort were managed differently when he was a boy. "I remember," says he, "when I was a boy at school I had to spell 'journey.' G-e-r-n-i," said I. Whew! what a talk our gaffer made about it! what a thrashing I had! As if a word could be spelt only one way! But then our gaffer had a wooden leg, and a shrewish wife, and he liked "a drop" now and then; so he was rather hot-tempered at times; but he was clever! Only to see the fat ducks and flying angels he made in the cyphering-books!"

In this strain farmer Hayrick compared the past with the present. He said not—he appeared not, to think that "the former days were better than these." He spoke as though he thought not disparagingly of education as it was, and as though there were nothing to find fault with, but much to admire in education, as he had so recently witnessed it.

Farmer Hayrick never troubled his head about agitation of any sort. He had once, at a market dinner, been persuaded to attend a Protectionist meeting at the Town-hall of the nearest borough to Poddlington, and he returned from it as imperturbed as he went.

Poddlington was accounted a slow place a few years since, but wonderful changes have taken place in it since a railway station was established in its vicinity. *Fine* houses have been built in it, and *fine* people have come to live in it. Amongst the fine people who have come to live at Poddlington is Mr. Grubbins. Squire Grubbins the villagers call him, to distinguish him from *the* Squire. Mr. Grubbins is a retired tradesman, he has built a *fine* house at Poddlington, and he keeps a brougham. His wife and daughters dress much smarter than the clergyman's wife and daughters, or even than the Squire's only daughter, who is still regarded as the handsomest and kindest lady in the village. When Mr. Grubbins was in business in London, his time and attention were much occupied in parochial matters; and the entire absence of anything like agitation in Poddlington rather disquieted his soul. He often chatted with his neighbour, Hayrick, patronizingly of course. He had often tried to "draw him out" on political questions; but the farmer was not to be drawn out. Talk about his crops or his cattle, his conversation would be as animated as the conversation of any farmer could be expected to be; but as for the "great and important topics" which give such life to the political world, farmer Hayrick knows but very little about them, and does not care to know more.

It was no matter of surprise that farmer Hayrick should lose no opportunity of talking about the new schools; but Mr. Grubbins was most agreeably surprised to hear the farmer introduce the subject of Education, a subject on which he (Mr. Grubbins) had "agitated" for years. Yes! the farmer introduced the subject of Popular Education—or what, as Mr. Grubbins remarked, is "all the same thing," he spoke of the new schools.

"Seen the new schools, sir?—Yes, sir, I've seen the outside of 'em, and that's enough for me—more than enough. I *do* subscribe to 'em, but that's only to—to—to—please Mrs. Grubbins." (He might with more

truth have said, "to see my name in the printed list of subscribers"). "I don't approve of learnin' the children of poor people what will never be of no use to 'em. They're ruinin' the country, sir, with this *hove*reducatin' the people. Let 'em learn boys to read the Bible and sign their names—that's right enough; but when it comes to singin', and drawin', and joggraphy, and istory, why *I* say it's *hove*reducatin' 'em—*hit his!*" Mr. Grubbins paused. The silent and meditative air of the farmer encouraged Mr. G. to proceed: "I aint one of them sort as believes all as is said about these new-fangled ways of heducatin' children. I never learnt 'istory, sir, *hi* never learnt it—*hi* never learnt grammar, and I don't see as I'm not as well as them as 'as. Now to begin with 'istory, what *his* the good o' that to boys and girls who will have to turn out into the world to get their livin' by ard work?" The farmer was about to declare his inability to answer the question, when at a little distance he perceived the Squire's daughter walking towards the farm. "Here comes Miss Aubrey; she's a rare clever lady, she can talk like a parson. I dare say she can explain all these things."

After the usual commonplace compliments, the important question was asked.

Miss Aubrey replied, "History is philosophy teaching by examples. It rarely fails to interest the young, and it can always be rendered instructive to them. It shows the wisdom of the Supreme Disposer of events in causing apparently fortuitous or even trivial circumstances to lead to great and important results. It shows the evils of war and the blessings of peace, the advantages of having wise counsellors and good government; it leads the young reader to trace effects to their causes, and, above all, it shows that 'righteousness exalteth a nation; but sin is a reproach unto any people.'"

The farmer's eyes glistened with delight as Miss Aubrey thus endeavoured to show the use of history. Possibly he could not comprehend the full force of every predicate, but he readily perceived the drift of the "defence" as a whole, and although he—like his cockney neighbour—had never been taught history, he was open to the conviction that it is well that children should be instructed in history, especially in the history of their own country.

But Mr. Grubbins was so accustomed to discussion, and so fond of it, that he could not think of letting Miss Aubrey have "the last word," even if he were obliged to let her have the best of the argument. He knew her to be a pious lady, and he resolved to use her own arguments against her. "Well now," said he, "that's all very well, but *I* say, let 'em read the Bible, that'll tell 'em all that, and a great deal more." "True," replied Miss Aubrey, "but it has been found to be injudicious to make the Bible the sole reading-book in a school." Mr. Grubbins made a discovery. He must be *movin'*. But to show that he was not convinced, he said, "With all doo difference to you, m'am, *I* think the Bible's the best readin' book. Good mornin' m'am," and, with a bland bow to the lady, and a patronizing nod to the farmer, Mr. Grubbins took his leave.

(*To be continued.*)

**PERSPECTIVE SIMPLIFIED,
FOR PUPIL-TEACHERS AND OTHERS PREPARING FOR THE
GOVERNMENT EXAMINATIONS.**

BY R. H. TURNER, HEAD MASTER OF THE GRAMMAR SCHOOLS, LIVERPOOL.

LESSON V.

THE PERSPECTIVE OF POINTS (*continued*).

EXERCISE IV.

PROBLEM IV.

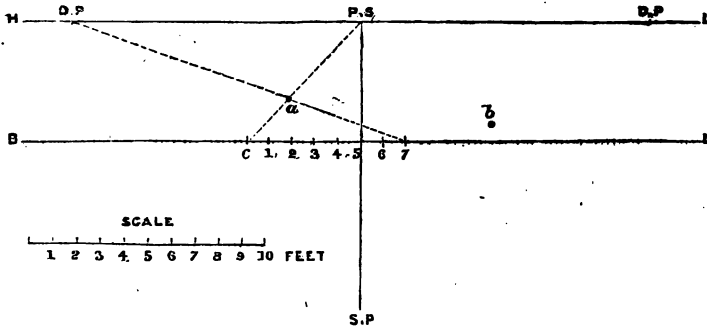


Fig. 13.

Given—the representative lines and points, and point *a* within the picture.

Required—to find the distance of point *a* within the picture, and to the left of the spectator.

From *ps* draw a line through *a* to the Base Line, and from *dp* draw another line to the Base Line. The distance from *c* to 7 on the Base Line, which by measurement is found to be 7 feet, is the distance of point *a* within the picture. From *c* to the Line of Direction is 5 feet, therefore point *a* is 5 feet from the Line of Direction.

PROBLEM IV.—Find the distance of point *b* to the right, and within the picture.

EXERCISE V.

PROBLEM V.

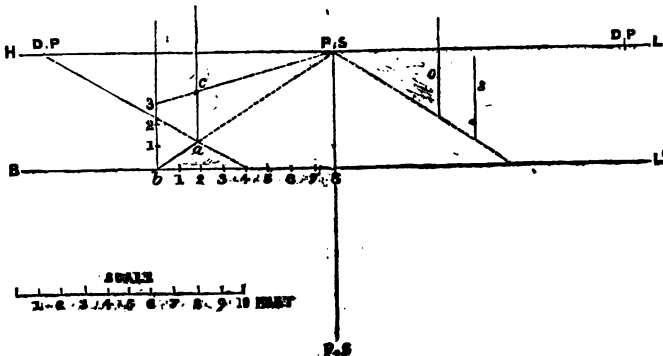


Fig. 14.

and surfaces are the boundaries of *solids*. Then, if the *Perspective of Points* in any position be understood, the perspective of lines, surfaces, or solids will present little difficulty, because their *extremities* can be represented by *points*.

The order which has been adopted in the foregoing Exercises is as follows :—

Exercise 1.—A plan or original representation given, to find the perspective representation.

Exercise 2.—Perspective representation given to find the plan.

Exercise 3.—Measurements given, to find the perspective representation.

Exercise 4.—Perspective given, to find the measurement.

Exercise 5.—Perspective height given, to find the measurement.

Exercise 6.—Measurement of height given, to find the perspective representation.

Carefully examine these Exercises again, until the operations become familiar to you. Take your pencil and paper, and set yourself the six problems given, and any others, with the points in various positions. Then shut the book, and try to work them all without assistance. When all are completed, compare your own work with the exercises here given; and if you find any error in your work, repeat the working of the whole; and do so until you can work them without mistake. Again and again test yourself in the Perspective of Points in any position, and you will find the advantage of it when working out more difficult problems.

In many perspective illustrations you will have noticed, that there is a multitude of lines. And possibly you have looked at these, sometimes; and, after having been puzzled and confused, have thrown the book aside in something like anger with yourself or the book. Was it the representation of an object with many surfaces? These surfaces were bounded by lines. The position of every line was determined by obtaining the perspective position of the two extremities of each line—the two *points*. And the method used in each case, for each point, was the same or similar to those with which you are already acquainted. In working out, therefore, any perspective problem, however complicated, endeavour to *confine your attention to one point at once*. You will thus simplify your operations, and render an apparently difficult problem comparatively easy.

You will have observed in the foregoing exercises, that each point has *two lines of construction*, one vanishing in the Point of Sight, and the other vanishing in the measuring or distance point. *Any point* in a perspective representation may be found or measured by means of these two principal lines of construction. Add this, therefore, to our last remark: *Confine your attention to one point at once, and the two lines of construction belonging to that point*, in working out any perspective examples. Habituate yourself to do this, and you will find the habit of great use when studying or practising any complicated examples in perspective.

NOTE.—Our readers will please to correct two small errors in the last lesson as follows :—

Page 201, Rule 6 in italics. "The distance point is the *VANISHING* point," &c.; should be "The distance point is the *MEASURING* point," &c. Page 203, 10th line from top, "and so 2 4, of 2 6" should be, "and so 2 4, of 2 b."

NOTES OF A LESSON ON CHEMISTRY.

III.—THE METALLIC ELEMENTS.

- | | |
|------------------------------------|--|
| I. General Remarks. | VI. Metals proper. |
| II. General Properties. | (a) Malleable Metals : |
| III. Metals of the Alkalis— | (10.) Platina. |
| (1.) Potassium. | (11.) Mercury. |
| (2.) Sodium. | (12.) Nickel. |
| (3.) Lithium. | (13.) Zinc. |
| IV. Metals of the Alkaline Earths— | (b) The Brittle and easily fused Metals : |
| (4.) Magnesium. | (14.) Bismuth. |
| (5.) Calcium. | (15.) Arsenic. |
| (6.) Strontium. | (16.) Antimony. |
| (7.) Barium. | (c) The Brittle and difficultly fused Metals : |
| V. Metals of the Earths proper— | (17.) Manganese. |
| (8.) Aluminum. | (18.) Cobalt. |
| (9.) Chromium. | (19.) Tungsten. |

I.—The metallic elements at present known are about forty-three in number, and are therefore more numerous than the non-metallic elements. A metallic element may be known from a non-metallic body by noting the following particulars with regard to it:—1. Whether it is a conductor of electricity and heat. 2. Whether it will reflect light in a powerful manner. If the properties of the element are such as will allow of an affirmative answer being given to the foregoing particulars, then it is a metallic element. The metallic elements are found chiefly combined with the non-metallic elements, such as oxygen and sulphur, or with other metallic substances. When found combined in this state the mixtures are then denominated the ores of the metals. However, there are a few metals which are sometimes found uncombined, such as gold, iron, &c.

II.—All metallic substances, when quite pure, are devoid of taste. One of the most attractive properties of the metals is the great brilliancy which they possess, and which has been named the *metallic lustre*. The weights, as well as the colour of the metals, vary considerably. The most common colour is white mixed with black. The metals are all opaque, even after they have been beaten out to very thin plates. Silver leaf, as an illustration, does not allow a particle of light to pass through it. None of the metals are naturally very hard, although a few of them can be hardened by art to such an extent as to exceed the hardness of all other substances. All metals are perfectly fusible by heat, but they differ greatly from each other in their fusibility. Mercury, for instance, is fusible at the ordinary temperature of the air, while platinum cannot be fused unless the greatest possible heat is applied to it.

Among the valuable properties which are common to some metals and wanting in others, are malleability, ductility, and tenacity; properties that are well known, and will therefore need no further explanation here.

III.—Alkalis are salts which neutralize acids. They have a bitter and acid taste, and change the blue juices of vegetables to a green. They are also soluble in water, and form, with the various acids, different combinations. Acids are substances which excite the taste of sourness when applied to the tongue. The metals of the alkalis are three in number.

(1.) Potassium is a brilliant white metal, so soft at common temperature that it can be moulded into any shape with the fingers, like wax. It is found in granite rock, animals, and in the sea. If a small portion of this metal is thrown into water, it will swim to the surface and take fire, giving forth a beautiful violet-colour light. It may be seen by this experiment that potassium is lighter than water, by its being able to float upon the surface of the water. Saltpetre, nitre, or nitrate of potass, which is largely employed in the manufacture of gunpowder and fireworks, is a compound of potassium.

(2.) Sodium was discovered by Sir H. Davy, and is found abundantly combined with other elements. It is white like silver, soft like potassium, and is exceedingly bright. It is lighter than water, and if thrown into this liquid it effervesces violently, and gradually diminishes, but does not take fire like potassium. This metal combines readily with potassium, sulphur, and phosphorus. Soda is made by allowing sodium to be exposed to the atmosphere.

(3.) Lithium is a very rare metal, and very little is known respecting it. It was discovered by a French chemist named Arfredson.

IV.—The principal metals of the alkaline earths are the following:—Magnesium, calcium, strontium, and barium. This class of metals are such as possess properties like those of the metals of the alkalis, but are much less soluble in water than the alkalis.

(4.) Magnesium is somewhat like zinc in appearance, but is put to no use in the arts. It is found in large quantities combined generally with carbonate of lime. This metal forms its celebrated oxide, known as magnesia, by being heated in the air. An oxide is a compound of oxygen and some other body, in such proportions as not to produce an acid.

(5.) Calcium was discovered by Sir H. Davy, who, however, was only able to obtain a very small portion. Calcium and oxygen combined together form that important substance known as lime.

(6.) Strontia, which is found in Scotland, is of a greyish white colour, and, when heated, burns a splendid red colour. It was discovered by Sir H. Davy, in 1808.

(7.) Barium is of a dark grey colour, and will melt at red heat. It is the basis of the earth called barytes. Barytes is the heaviest of the earths, and is extracted from spar, in which it is associated together with carbonic and sulphuric acid.

V.—We now come to the description of two metals whose oxides are earthy powders, having no alkaline properties, and, being quite insoluble in water, are known as the metals of the earths proper.

(8.) This metal is very abundant in nature, combined with other

bodies. Its oxide is known by the name of alumina, which, together with potass, form felspar, one of the constituents of granite and other rocks.

(9.) Chromium was discovered by Vauquelin, who, by a long analysis, found it to be one of the elements contained in the red lead of Siberia. It is a valuable and interesting metal, and, mixed with other elements, it forms a great variety of beautiful colours, which are employed both by the painter and dyer.

VI.—The metals proper will embrace those with which we are most acquainted; the most common of which will not be commented upon. The principal are gold, silver, iron, zinc, cobalt, nickel, manganese, mercury, lead, copper, tungsten, platinum, tin, antimony, arsenic, palladium, chrome, bismuth, cadmium, &c. &c.

(a.) Among the Malleable Metals are gold, silver, platina, mercury, palladium, rhodium, osmium, iridium, copper, tin, nickel, iron, lead, and zinc.

(10.) Platina, or platinum, is rather a scarce metal, found in Russia and South America. Platina is not so white as silver, and is one of the most weighty of all substances. Its name is derived from the Spanish *plata*, which means silver. It is malleable, ductile, and a good conductor of heat.

(11.) Mercury is often found uncombined in nature. It is one of the most beautiful and brilliant of the metallic elements, and is always fluid at ordinary temperatures. It however becomes hard at a temperature of 39° F. Mercury may be dissolved by pouring a small quantity of nitric acid mixed with a little water upon it. The solution thus formed will plate copper, brass, &c., with a most brilliant silver-like colour.

If six parts of mercury be put with two parts of melted tin, the mixture will combine and form what in chemistry is called an amalgam, which is employed for silvering the backs of looking-glasses.

(12.) Pure nickel is brilliant, and of a yellowish white colour. There are three distinct ores of nickel; viz., oxide of nickel, sulphuret of nickel, and ferruginous nickel. This metal is now used as a substitute for silver.

(13.) Zinc was known to the ancients. This metal is of a blueish white colour, and is formed of a number of thin plates adhering to one another. Zinc is employed as a substitute for lead, in roofing houses, &c. If a piece of zinc is placed upon the upper side of the tongue and a silver coin on the under side, a very curious sensation will be felt by making the two metals touch each other. Zinc can be dissolved by the aid of sulphuric acid.

(b.) Among the Brittle and Easily-fused Metals which deserve particular attention are, bismuth, antimony, arsenic, and tellurium.

(14.) Bismuth, which was known to the ancients by the name of tin-glass, is of a reddish white colour. When heated above 480° it evaporates. If gradually heated, it takes fire and burns with a blue flame, giving forth at the same time a yellow smoke. Bismuth is combined with several other metals in order to give them consistence and hardness.

(15.) Arsenic is a brilliant blueish-white mineral. It is very brittle, and when heated smells like garlic. This metal will combine with all the simple combustibles with the exception of carbon. Arsenical hydrogen gas may be made as follows:—

Mix together, in a bottle provided with a stop cork, four parts of granulated zinc, one part of arsenic and sulphuric acid, diluted with water. This gas is without colour, has a very strong smell, extinguishes flame, destroys animal life immediately, and if lighted, will produce a blue flame.

(16.) Antimony is found in combination with sulphur, from which it is easily separated by heat.

Antimony is very brittle, of a blueish white colour, and brilliant. Antimony is often alloyed more or less with the following metals,—pewter, iron, copper, gold, silver, platinum, zinc, bismuth, &c. Antimony is the chief metal used for casting printing types. The alchemists paid particular attention to the combination of this metal with gold, some of them imagining that the quantity of gold might be increased by alloying it with gold and then purifying it.

(c.) We now come to the last division of the metals proper, viz., those that are Brittle and with difficulty fused; they are manganese, cobalt, tungsten, chrome, molybdena, and uranium.

(17.) Manganese is also known by the name of the *glass-maker's soap*, in consequence of its property of whitening glass. It is exceedingly brilliant, of a white colour, and extremely hard. There are seven oxides of this metal.

(18.) Cobalt is used to tinge glass of a blue colour. It is brittle, of a greyish red colour, and without taste or smell. Cobalt will not enter into combination with hydrogen nor carbon. Sympathetic ink may be made in the following way:—Upon a small piece of cobalt pour a few drops of nitric acid, together with a small portion of muriatic acid. The mixture will have a greenish colour, which will change to red by adding a little water. A letter written with this ink will remain invisible until held to the fire, when the writing will distinctly appear of a blue colour. If a little copper is added to the above solution the writing will appear of a green colour.

If a picture is drawn and painted representing winter, and the leaves of the trees, grass, &c., invisibly put in with green sympathetic ink, it may be seen that the picture can be readily changed from winter to the appearance of summer by holding it to the fire, and thus produce a very wonderful and pleasing effect.

(19.) Tungsten means “heavy stone,” and was so called by the Swedes. It has only been found combined with lime, iron, manganese, and lead. It is the most difficult of all the metals to melt, and as such is the case, no attempt has been made to discover its useful properties. This mineral is of a greyish white colour, somewhat like iron, and exceedingly heavy.

CHARLES F. REDMAN.

(To be continued.)

[Erratum.—P. 204, for This gas read Nitro Oxide gas.]

NOTES OF A LESSON ON THE LOBSTER.

- | | |
|---|------------------|
| I. Crustacea in general. | III. Locomotion. |
| II. Structure of the lobster,
and class. | IV. Habits. |
| | V. Lesson. |

I. *Crustacea*.—Meaning of the term; mention one or two belonging to the class or family. How the crust or shell is formed,—of what materials. Lobster has two coverings—inner and outer; outer one hard—inner one soft. The crustacea have their shells formed by a number of circular plates.

II. *Structure*.—Manner of breathing, first, by air vessels; second, by gills: this mode of taking in air is called *Semi vascular* and *Semi lacunar*. This class have also the power of holding on [prehension]; this power, however, is the strongest in the crab. The shape of the lobster different to that of the crab, one nearly oval, the other long and slender.

III. *Locomotion*.—Explain; shell of lobster formed of several rings, every one having a distinct motion. How does the lobster move in the water—show the structure of its tail,—contains many circular *plates*, every one [plate] over-laps its neighbour. All joined together by *muscles* [illustrate]; crabs not the same; illustrate *dilation* and *contraction* of the muscles by the arm or a piece of India rubber; compare this to the lobster's tail. The lobster wishing to remove from where it is, stretches out the tail to its full length, then by suddenly drawing it in, or *contraction*, it gives itself a jumping motion; compare to cheese maggot. How do crabs move,—sideways; illustrate the position of the eyes,—pushed outwards; lives at the bottom,—climbs up the rocks,—how?

IV. *Habits*.—The lobster casts its shell every year,—why,—shell does not grow,—inhabitant becomes too large,—obliged to quit,—lives in caves,—small ones,—why; very weak in its limbs,—if it lived in a large one the waves would dash it to pieces,—very warlike,—preys upon its own species to tkind.

V. *Lesson*.—How good God has been in providing everything necessary for the lobster's mode of life,—much more, therefore, will He care for us.

J. DIXON.

NOTES OF A LESSON ON JAMAICA.

I. *Situation and Extent*.—The island of Jamaica is the largest and most important of the British possessions in the West Indies. It lies about 100 miles south of Cuba. Its length from east to west is nearly 150 miles, and its average width about 40.

II. *Physical Features*.—1. Mountains: A chain of mountains runs through Jamaica from east to west; the eastern portion of which is called the Blue Mountains, the summits of which exceed 7,000 feet in altitude. The greater part of the island is hilly, but an extensive open tract, called the plain of Liguanea, extends along the south coast. 2. Rivers: Every part of the island is well watered, but the only navigable river is the Black River, on the south coast.

III. *Climate and Productions.*—The climate is hot, but is relieved by a daily sea breeze. Jamaica produces sugar, rum, coffee, pimento, cocoa, cotton, ginger, indigo, and tobacco.

IV. *Towns.*—Kingston, the principal town, is situated on a fine harbour on the south coast, and has 30,000 inhabitants. Spanish Town, in the interior, about 16 miles from Kingston, is the political capital.

V. *Importance.*—Jamaica serves as a general depôt for the British trade in that part of the world.

VI. *History.*—Jamaica was discovered by Columbus on his second voyage to America, in 1494. It was colonised by the Spaniards in 1509, from whom it was taken by England in 1655. Many Puritans came here after the restoration of Charles II. In 1691 there was a great rising of the slaves, and in 1833 all the slaves in the British Colonies were emancipated by the British Parliament.

Compiled from—*Epitome of Geography* (Irish School Books); *Geography of British Empire* (Gleig's); *Colonies of Great Britain* (National Society); *Boardman's Historical Geography*.

CLAUDIUS (Third Year).

CRITICISMS.

NOTES OF LESSON ON FISH.—(p. 209.)

SIR,—I beg to offer some remarks upon the Notes of Lesson on Fish, by F. T. READ, so as to show to him the defects; and to arrange the Notes properly, as well as to give them fully.

I.—THE REMARKS.

1. When the Notes are read over, they will be found to be badly arranged, *e.g.* the "Food" ought by all means to precede the Distribution; and again, as a proof to this, F. T. R. should bear in mind that if the Description, Habits, Structure &c., be properly treated upon, the class would be able to state at least some of the food of some kinds of fish; and after that they would be led to think where they would find this food, and so they would judge very nearly the places in which the different species of fish are found.

2. They are not full enough. F. T. R. will see this by a comparison with my Notes.

3. The method of imparting the knowledge to the class is very poor,—the children must think for themselves, and the Teacher draw their minds out, and cram them up with knowledge they, perhaps, won't try to remember.

4. What sort of a class does he intend his Lesson for? F. T. R. should observe too, that the language cannot be too simple.

II.—THE NOTES FULLY ARRANGED (FOR A CLASS OF 10 OR 11 YEARS.

Introduction.—Name what the Lesson is to be about; educe from class what Fish are; and where they live.

Description.—Draw from children the shape of the animal, get them to name the members of the body and their use.

Species.—Let the class name as many species as they know, write them on the black-board, and add several others.

Appearance.—Draw from the class all they know about this point, and add to it other matter that is interesting to them, on the same point mind.

Class and Structure.—The children will do this by Teacher's help; get from them by questioning all they know, filling up what they leave out.

Size.—The Teacher must do greater part himself, or children will form wrong notions. Some part they know of course.

Habits.—The Teacher must again impart instruction, or the children will most probably err in their notions.

Food.—From what should be said of Habits, the children will be able to do this in greater part for themselves.

Where found.—They again by Teacher's help will do the greater part of this. They will notice the Distribution of themselves.

Uses.—The Teacher must of course give information on this point.

Difference between them and other Animals.—The children will be able to do all this.

Lesson from what has been said.—God's wisdom displayed in the formation of Fish, and in the providing of instinct to guide them in search of food.

The Teacher must lead the children to observe this.

NOTE.—F. T. READ will observe that I have given here, not the information to be given, but the manner in which it is to be given.

PHARAMOND.

FRANCIS T. READ, in his Lesson on Fish, has omitted one thing which I think is very important. I mean, comparison.

In giving a Lesson, compare or contrast one thing with another.

For instance, if I were giving a geographical lesson, and speaking of a mountainous country, I should compare it with a flat one. Your correspondent in his "Description" of the Fish says,—"body long, gradually gets smaller towards head and tail."

Here he might have noticed that the *bird* towards its head gets smaller. Also the shape of a *ship's bow*. Then have stated the reason of that, viz., to cut the water or air better.

Again, when he says, they are "cold-blooded animals" he might have compared them with other animals which have cold blood—*worms* for instance.

There is also another thing which is overlooked, not only in *his* Lesson, but also in others—the application.

A nice lesson might be deduced from the above lesson:

God's wonders shewn in the deep.

In the adaptation of the Fish to the element in which it lives.

Its gills, the air-bag, the scales, the covering for its eyes, &c., all show the wisdom of the Creator.

SOBRINET.

CHARLES F. REDMAN has, in my opinion, made a slight error in his second Lesson on Chemistry, page 204. Under the head "Nitrogen," he has stated that that substance is sometimes called "laughing gas." Now, what is called laughing gas is a gas composed of 14 parts nitrogen, and 8 parts oxygen. (Its chemical name is Nitrous Oxide). This union of nitrogen and oxygen completely alters most of the properties of the former body. Thus :—

I.—Nitrogen is

1. *Irrespirable*, producing death, if inhaled.
2. *Without smell*.
3. *Tasteless*.
4. *Does not support combustion*.
5. A little lighter than water.

II.—Laughing Gas is

1. *Respirable*, if inhaled produces irresistible fits of laughter, &c. It sometimes produces injurious effects.
2. *Possesses a faint, agreeable odour*.
3. *Has taste*.
4. Supports combustion.
5. $1\frac{1}{2}$ times the weight of water.

Therefore I do not see any reason why "laughing gas" should be another name for nitrogen; for the same reason that glass is not called sand, though sand forms a part of it.

HENRY TASSELL.

Selections by the Editor.

THE FEUDAL SYSTEM.—A great change took place in the constitution of the country during this period, by the introduction of the feudal system. Some germs of this institution unquestionably existed among the Saxons, but it was fully developed under William I. The system itself had its origin in the invasion of the barbarian hordes who, in the fourth, fifth, and sixth centuries, poured from Germany and its neighbourhood into the different parts of the Roman empire. Whenever they conquered a territory the land was, to a large extent, parcelled out among the invading tribe, the most considerable division being granted to the chief, or leader, of the expedition. The land which the soldiery received, in the course of time acquired the name of *alodium*, or *alodial land*, and the owners of it were subject to no condition except that of bearing arms in case of hostile aggression. The chief, or sovereign, usually distributed some of his estates to his favoured subjects or courtiers, who, perhaps, at first held them merely during the donor's pleasure, having in them no more than a beneficiary or usufructuary interest, while the actual ownership remained in the king. Such an estate was first designated a *benefice* (*beneficium*); and in the tenth century it acquired the name of *feud* (*feudum*). At this latter period most of these estates had become hereditary, and, in consequence, the holders, imitating the example of their sovereign, or *suzerain*, carved out portions of their feuds, and granted them to others on conditions similar to those annexed to the original estates. This practice, which was often continued through several stages, received the name of *sub-infeudation*; and in it we have the system of feudal tenures, both in name and reality.—*Curtis's History of England*.

DO SOMETHING.—There is not a spider hanging on the king's wall but hath its errand; there is not a nettle that groweth in the corner of the churchyard but hath its purpose; there is not a single insect fluttering in the breeze but accomplishes some Divine decree; and I will never have it that God created any man, especially any Christian man, to be blank, and to be a nothing. He made you for an end. Find out what that end is; find out your niche, and fill it. If it be ever so little, if it is only to be a hewer of wood and drawer of water, do something in this great battle for God and truth.—*Old Jonathan*.

Recreative Exercises.

* * The Proposer is, in each case, required to forward to the Editor the Answer in detail, with the Exercise.

XVII.—A Town on Prussia's Baltic shore,
Then country having sand in store,
A river long to Wash doth flow,
An Indian province next you show—
Small isle or town of Greece bring forth,
Volcano then from farthest south.
A point in air or sky you make,
Part of North Afric's land you take.
Then place by German river's side,
The name of Lake in Shannon's tide.
These things now take, and using well,
Initials downwards read, will spell
The name of English city great.
With finals, you perform the feat,
Of tracing down with gentle hand,
The county's name where it doth stand. R. STRATTON.

XVIII.—The initials spelt *downwards* will give the name of a female remarkable in Biblical history for her earnest prayer. The initials spelt *upwards* will give the name of a person whose history illustrates the truthfulness of Matt. vii. 7, and Psa. xxii. 24. The finals spelt *downwards* will give the name of a town in France. The finals spelt *upwards* will give the name of a town situate on the Le Cher.

1. The name of a woman mentioned by St. Matthew, St. Mark, and St. Luke, who married her two uncles, the first being alive at the time she married the second.

2. The name of the tract of country in Syria that was governed by Lysanias.

3. The name of a disciple of our Lord's, supposed to have been the same as Bartholomew, and who was brought to the knowledge of Christ through Philip.

4. A native of Cana of Galilee, who, together with Peter, Thomas, John, James, and two other disciples, saw Christ after His resurrection.

5. A name meaning "a messenger," and given to those appointed and commissioned by our Lord to preach the Gospel.

6. The name of a person supposed to have been a Christian, and a companion of St. Paul, but who afterwards deserted him, and is mentioned in one of the epistles together with Phygellus.

CHARLES F. REEDMAN.

ANSWERS.

XIII. (p. 100).—A thousand's half we represent by D,
Three-fourths of eight-sixths proves one I to be,
Two-tens from twenty-five leaves V behind,
And in the next quotient I again we find,
Four pounds from eighteen quarters, and remain
Five hundred pounds, which brings in D again,
The vowel E must be the tail of nine,
And then I think the puzzle will be mine.
For if you place these letters side by side
They'll answer Robert Stratton, thus:—DIVIDE.
May all who read this show a friendly face;
And keep *division* in its proper place.

Iva.

$\frac{1}{4}$ of 1000	=	500	=	D.
$\frac{1}{4}$ of $\frac{8}{9}$	=	1	=	I.
25—20	=	5	=	V.
$\frac{8}{9}$ of $\frac{9}{10}$ of $\frac{1}{10}$	\div	$\frac{8}{10}$	=	1 = I.
18 qrs. = 504lbs. 504—4	=	500.	=	D.
The tail of nine.	=		=	E.

"As mathematics you pursue
Some troubles will betide;
And one with which you'll have to do,
Will surely be Divide.

CONSTANS.

Also: Alphonso, C. T. G. Carpenter Blanche, D. K. Evans, F. Brough, Cymreiges, Meta, and others.

XIV. (p. 190).—NaaS. EamonT. WarF. TraleE. OrwellL. NorE.
Newton. Steele.

LEONARDO-DA-VINCI.

Also: Violet, D. Davidson, A. Kerr, Abercrombie, C. Ashen, Helen, J. N. Hobbs, J. Overend, Maria E——tt, H. M. S., W. Davey, Jessamine, E. J. Paul, F. Workman, R. Stratton, J. B. K., E. Hughes, A. A. Stuart, James Kepple, and others.

The following answer *both* (XIII. and XIV.), Apollo, T. J. C., Henricus, J. Nixon, Myra, A. E. Freeman, Abram Sturrock, Sapere Aude, R. Fishenden, W. A. Rothwell, T. Mitchell, Constans, Zeta, J. Hewitson, E. Cryer, W. Riach, Iva, Oxoniensis.

Editor's Exercises.

HISTORICAL NOTES RELATIVE TO GUILDFORD.

9 (page 94).

GUILDFORD, or, as it has at various times been written, Geldeford, Guldeford, and Gildeford, is generally supposed to derive its name from the Saxon Gild, Gezild, or Guild, a trading company or fraternity, and Ford, a passage through a river.

It is undoubtedly a very ancient town, and is thought to have been in existence in the time of the Romans. Some antiquarians consider it to occupy the site of that much-disputed station the Noviomagus of the Regni. Others conjecture it to be the Ardaoneon of the Ravenna Chorography, and consequently one of the principal stations on the Roman road leading from London to Winchester.

It is first mentioned by name in the will of King Alfred, in which document he bequeathed it to his nephew Æthelwald, but he being slain in rebellion against Alfred's son and successor, Edward the Elder, Guildford fell into the possession of that monarch.

Speed, the historian, says that Alfred, and some others of the Saxon kings, occasionally resided here, but there is not sufficient evidence to establish the fact.

Godwin's massacre of the attendants of Prince Alfred, the son of Ethelred the Unready, was perpetrated here during the reign of one of our Danish kings.

In 1036, in the reign of Harold I., Alfred, son of Ethelred II., was seized in Guildford Castle, and his Norman attendants, to the number of nearly 600, massacred. (2.)

Guildford formed part of the personal estate of the Confessor, and afterwards of the Conqueror, as appears from the Domesday Book.

Soon after the completion of that survey, various grants were made from the royal demesnes, but our sovereigns all had possessions here till James I. disposed of all the lands at Guildford belonging to the crown.

Henry II. built a palace at Guildford in the early part of his reign, and in it he occasionally resided, as did also John, Henry III., Edw. II., Edw. III., Edw. IV., Henry VIII., and Edw. VI.

The palace was enlarged and improved by Henry III. to fit it for the residence of his daughter-in-law, Eleanor of Castile, and it was afterwards assigned to Queen Margaret, second wife of Edw. I., in part of her dower.

Here occurred the well-known interview between the king and the monks of St. Swithin.

Guildford Castle was probably built soon after the Domesday survey, but is first mentioned in the records of King John's reign, from which it appears that on the 9th of June, 1216, it was taken by Prince Louis of France.

Henry III. used the vaults of the Castle as wine-cellars.

In 1266 it was appointed a prison for the counties of Surrey and Sussex, and so continued to the reign of Henry VII., when a gaol for Sussex was made at Lewes.

In 1246 arrangements were made for holding a tournament at Guildford, but the king, suspecting treason, issued an order prohibiting anything of the kind at any time or place without his special licence.

Eleanor of Provence, first wife of Henry III., established a convent of Dominicans in Guildford, and endowed it with an estate since known as the Friary.

Edward II. proposed to establish a sisterhood of the same order in the town, but it was never done.

The convent was seized by Wolsey in 1523, and on his disgrace and death escheated to the king, who built a mansion on the spot, but afterwards, disposing of the property, it was pulled down and a new one erected, 1630. Some remains of the outworks of the Friary still exist.

By a charter of Henry III., dated 1267, the county court of Surrey, hitherto held at Leatherhead, was ordered to be held at Guildford for ever.

In 1269, complaints of the inconveniences arising from its removal from so central a situation were made, but in the 7th of Edward I. the charter was confirmed, and Guildford has ever since been considered the county town.

But by a statute of Richard II. the assizes were to be held at any place appointed by the Lord Chancellor; and the spring assizes are consequently held at Kingston, and the autumn ones at Guildford and Croydon alternately.

Speed says a convent of Crutched Friars was planted at Guildford during the reign of Henry III., by William, Earl Warren and sixth Earl of Surrey.

In the 23rd of Edward I. the privilege of sending members to Parliament was granted to Guildford.

Since the year 1295, Guildford has sent two members to Parliament. (2.)

Earl Warren introduced bull-baiting into Guildford in the reign of Edward III.

In 1509, a Royal Free Grammar School was founded.

In 1509, a Free Grammar School was founded, which was chartered by Edward VI. in 1553. (2.)

In the 26th of Henry VIII. an Act was passed for the establishment of 26 suffragan Bishops, and Guildford was one of the new sees, but no appointment was made.

In 1549, and again in the 39th and 45th of Elizabeth, stringent enactments were made by the municipal authorities to enforce a pharisaical observance of the Lord's day, but it was afterwards found necessary to modify them.

In 1561 and 1644, the town was visited by the plague.

In 1579, a Blue-Coat School was established.

In 1602, the town was ordered to be paved; and in 1605 the greater part of it was pitched.

Great improvements in this respect were made in 1812.

Archbishop Abbot founded a hospital here, 1619.

In deeds bearing date 1624, the Spital House, or Hospital of St. Thomas, is mentioned, but nothing certain is known respecting its origin.

It has been conjectured that the House of Crutched Friars previously mentioned was afterwards merged into a Hospital, which was consecrated to St. Thomas. The building was afterwards used as an almshouse, but has long since been destroyed.

In 1656 the river Wey was made navigable as far as Guildford, over which there is here a bridge of five arches. (2.)

In 1683 the Town Hall was erected and ornamented with a clock and dial.

In 1688 great alarm and excitement were caused in Guildford by rumours of an Irish invasion, and the people left the town and took refuge in the numerous *chalk caves in the neighbourhood.*

In 1701, water-works were established.

In 1749 an old market house for rye, malt, &c., was taken down, and a new one built; but the market afterwards falling into decay, the building was used as a repository for the town engines.

In 1765 a new gaol was built.

A large building for a vegetable market was erected in 1789.

In 1794, cavalry barracks were built on a part of the old Friary estate.

In 1800 an old cock-pit was converted into a poultry market, and about the same time a small theatre was built.

A fine building for a corn market and assize court was erected 1818.

The House of Correction at Guildford was completed in 1822.

A Gas and Coke Company were established in 1834.

The Mechanics' Institute was founded 1834, and a Literary and Scientific Institute in 1835, both of which are still flourishing.

A Cattle and Root Show has been successfully established.

Guildford is divided into three parishes, and contains three principal churches, and several other places of worship belonging to Christians of various denominations.

St. Mary's Church was probably built in the reign of Stephen, or Henry II.

Holy Trinity Church was rebuilt 1763, and St. Nicholas, 1837.

Guildford is well supplied with educational establishments.

The town is considered a corporation by prescription.

It cannot now be determined by whom its first privileges were conferred.

If the generally received derivation of the name be correct, it was at any rate a corporation in the reign of Alfred.

The first charter on record is one of Henry III., dated 1256.

Their privileges were confirmed by Edward III.

The charters were lost during Wat Tyler's insurrection, but Richard II. granted new ones in 1384, which were afterwards confirmed by Henry VI. and Henry VII., the latter of whom conferred still further privileges, as did also Henry VIII.

James I. granted them the commission of the peace.

James II. remodelled the corporation, which again suffered great alterations in 1835.

The population of Guildford has more than trebled since 1801.

In 1851 it was 8,084.

In the reign of Elizabeth the town was famous for its woollen cloths, but the manufacture has greatly declined.

The corn market, which is held on Saturdays, is rather noted for the quality of the grain. The vegetable market is held on Wednesdays and Saturdays.

Guildford sends large quantities of bacon to the London markets, where it is held in great estimation.

There are two annual fairs for cattle and horses, and a lamb fair is held on the Tuesday before Easter, and continued every Tuesday till Whitsuntide.

Guildford is connected by two lines of railway with the capital.

Three different families have received titles of honour from this town.

The Prime Minister during the American War of Independence—Lord North—was likewise Baron Guildford.

Sir Francis North was created Baron Guildford by Charles II. in 1683. (2.)

Guildford has been the birthplace of many celebrated characters.

Dr. Parkhurst, made Bishop of Norwich 1560, was born here 1511.

Dr. Robert Abbot, a famous polemical writer, made Bishop of Salisbury 1615, was born at Guildford 1560.

Dr. George Abbot, made Archbishop of Canterbury 1611, was born here, 1562.

Sir Maurice Abbot, a famous merchant knighted by Charles I. for his services to his country, was born at Guildford, about 1570.

These last three famous men were all sons of a cloth-worker, and received their early education in the Free Grammar School of their native town.

John Russell, R.A., the great painter in crayons, was born at Guildford 1745.

ANGLO-SAXON.

[Those marked 2 are from the paper of John Smith, Bristol. The four papers next in order of merit are, Urban, Essayez, J. D., and Annie, (W.)]

Notes and Queries.

. We wish it to be distinctly understood that we do not guarantee that all the notes, replies, &c., are correct. Criticisms on lessons, parsing, &c., are requested. The Subscribers to the "Pupil-Teacher" should consider themselves as members of a Mutual Improvement Society, and regard our periodical as their medium of intercommunication.

Our Notes and Queries are of three classes:—

I.—Mathematical.

II.—Philological, including Grammar, Paraphrasing, Composition, &c.

III.—Miscellaneous, including all questions on subjects of Study or Method.

Questions of Discipline or Management, affecting Pupil-teachers, are discussed in the EDITOR'S COUNCIL.

In sending Answers, merely refer to the number and page thus:—"Mathem. No. —, p. —;" "Philol. No. —, p. —;" "Miscell. No. —, p. —."

N.B.—The number refers to the *query*, not to the "Pupil-Teacher."

PHILOLOGICAL: QUERIES, &c.

. Obs. In our last number (p. 211), the numbers to the Queries were omitted. They should be, 12 (URBAN), and 13 (SPES).

14. (MARY MICHELL).—Parse the italicised words so as to make them plain to children:—"At Falkirk a gleam of success again shone upon his cause; but at the Battle of Culloden, near Inverness, April 16, 1746, his army was hopelessly and completely routed."

15. (BLENHEIM).—Analyse the following verse; and parse the words in italics, stating your reasons:—

"A chieftain to the Highlands bound,
Cries 'Boatman, do not tarry,
And I'll give thee a silver crown
To tow me o'er this ferry.'"

16. (E. B. LOYD).—Analyse the following, and parse the nouns and pronouns—"Hard by may be seen a coffin, said to be the receptacle of the bones of Essex, Elizabeth's favourite, and the idol of the populace: a man, than whom we read of few more highly gifted—few whose lives have ended more tragically."

MISCELLANEOUS: QUERIES, &c.

21. (†)—What is the meaning of the passage, "Make to yourself friends of the Mammon of Unrighteousness, that when ye fail, they may receive you into everlasting habitations?"—Luke xvi. 9.

22. (APOLLO).—Express the chemical change in the following experiment in chemical nomenclature, and give the cause of the result:—If a globule of potassium be thrown upon water an instantaneous explosion is produced with brilliant flame, and a solution of pure potash is the result.

MATHEMATICS: SOLUTIONS, &c.

ERRATA.

16. (p. 186.) l. 2. For $2x^2 - x - 2 + x$, &c.; read $2x^2 - x - 2x$, &c.

30. (p. 214.) l. 1. For $\frac{px^2 + qb^2}{(px - qb)b} = m$; read $\frac{px^2 + qb^2}{(px - qb)b} = M$ a minimum.

l. 8. For, when x is a minimum, &c.; read when m is a minimum.

31. (p. 215.) l. 4. For $n = \frac{y}{y-1}$; read $x = \frac{y}{y-1}$.

l. 7. For $y^2 = 2y + 2yz - 2x$; read $yz = 2y + 2yz - 2x$.

l. 8. For $y^2 + 2x = 2x$; read $yz + 2y = 2x$.

l. 9. For $y^2 - 3y = 3x$; read $yz - 3y = 3x$.

l. 13. For $-\frac{x^2}{5} = -\frac{3x}{5} + 32$; read $\frac{x^2}{5} = -\frac{3x}{5} + 3x$.

11. (p. 10).

If three given lines in connection with a fourth of variable magnitude, can, under the most favourable construction for enclosing space, be formed into an indefinite number of quadrilaterals to contain *above* a given area; then, as one dimension in each varies, the areas will also vary; and hence among these latter variations a maximum exists. Now if the variable side be continually increased or diminished from that which produces the maximum, the areas will, in both cases, recede from the maximum till they become zero. Hence two quadrilaterals exist, each containing the given area, which, if less than the area of the triangle formed by the three given lines, one of the quadrilaterals will be the intersection.

Now, by Leslie's Geometrical Analysis, Book 3, Prop. 38, Cor. 1, a quadrilateral encloses the greatest space when it is inscribed in a circle. Consequently, it is quite apparent that this must be the particular construction of the two required quadrilaterals.

Therefore, in the query, the given sides being 3, 4, and 5 chains, if we put the fourth = u chains, we shall have, by the rule for finding the area of a quadrilateral inscribed in a circle, the equation—

$$(6 + u)(4 + u)(2 + u)(12 - u) = 16 (\text{area})^2 = 6400.$$

Multiplying, &c.

$$u^4 - 100u^2 - 480u + 5824 = 0.$$

From which we find the two values of u , viz., 9.05328 and 6.9328 chains, the greatest and least lengths of the required side.

If "H. Y." wish to have the question solved arithmetically, it is easily done. Thus, to find the greater side, make two suppositions, say 9 and 9.1 chains, find areas by the rule before mentioned, then work as in double position, and proceed similarly for the less side.

W. G. W.

PHILOLOGICAL: ANSWERS, &c.

PARAPHRASE.

5. (p. 11).

The number of Sabbaths which occur in man's life, threaded together as they arrive on the string of time, form bracelets, as it were, to beautify God's bride—the Church. On every Sabbath, all have an opportunity of learning the way to heaven; to procure innumerable blessings, more in number than we can ever hope to obtain.

R. FISHENDEN.

ANALYSIS.

5. (p. 11).—I.

- | | | | |
|---|------------|---|--|
| A | Prin. Sen. | { | a. The Sundays—Subject. |
| | | | b. of man's life—Prep. and case; adj. to a. |
| | | | c. threaded together on time's string—Part. phrase; adj. to a. |
| | | | d. make—Predicate. |
| | | | e. bracelets—Obj. |
| B | Prin. Sen. | { | f. to adorn the wife—Inf. phrase; adj. to e. |
| | | | g. of the eternal glorious King—Prep. case; adj. to f. |
| | | | h. On Sundays—Prep. and case; adj. to j. |
| C | Prin. Sen. | { | i. Heaven's door—Subject. |
| | | | j. stands—Predicate. |
| | | | k. ope—Adj. to j. |
| | | | l. blessings—Subject. |
| | | | m. are—Copula. |
| | | | n. plentiful and rife—Pred. |
| | | | o. more plentiful than hope—Pred. |

R. FISHENDEN.

(ib.)—II.

- a. The Sundays of man's life—Subject to c.
- b. threaded together on time's string—Participle phrase enlarging the subject.

- c. make—Predicate to a.
 d. bracelets—Object to c.
 e. to adorn the wife of the eternal glorious King—Enlargement of object.
 a. Heaven's door (subject) stands ope (predicate)—Principal sentence to b.
 b. on Sundays—Adjunct of time to a, extending the predicate.
 c. Blessings (subject) are plentiful and rife, more plentiful than hope (predicate)—Principal sentence, co-ordinate with a. AARON SMITH.
 [The four papers next in order of merit are those of Robin Hood, Silex, R. M'William, and Frank.]

MISCELLANEOUS: ANSWERS, &c.

14. (p. 188.) The Ports of Asia, &c.
 * * The following are arranged from the four best papers, namely, (in order of merit);—Apollo; Ichabod; Thomas L. Simpson; J. N. Hobbs.
Acheen, in N.W. of Sumatra. *Exp.* mace, cloves, nutmegs, coffee, sugar, pepper and rice. Lat. $5^{\circ} 22' N.$, long. $95^{\circ} 34' E.$
Acre, (or *St. Jean de Acre*, *Akka*, *Accho*, *Ptolemais*), on the coast of Palestine, 27 miles to the S. of Tyre. *Exp.* cotton, fruits, leather, &c. *Manu.* cotton, leather, silk, &c. Taken by Richard I. during the Crusades, after a siege of two years, 1192. Retaken by the Saracens, 1291. Besieged by Bonaparte, and defended by Sir Sydney Smith, 1799. Stormed by Stopford, 1840.
Adalia, in S. of Asia Minor. *Exp.* dried fruits. Lat. $36^{\circ} 52' N.$, long. $30^{\circ} 43' E.$
Adana (Natolia), on river Syhoon. Here is a bridge said to have been erected by Justinian. *Exp.* wine, fruit, corn, cotton, wool.
Aden, capital of the state of Aden, situated on a rocky peninsula, in the S.W. of Arabia. *Exp.* coffee, gums, drugs, rice, tobacco, cloth. Belonged to the Greeks, and was the channel through which the exports from India were conveyed to Egypt. Was destroyed by Hippalus, A.D. 50. From the eleventh to the sixteenth century, it was the exclusive entrepôt of the East. The discovery of the passage round the Cape of Good Hope was its first great blow. The Turks under Solymán took possession of it. From that time it has declined. Purchased by the E.I.C. in 1838.
Akhazkeh (Asia Minor), on tributary of the Kur. *Exp.* silks and hemp.
Amboyna; in Amboyna, one of the Moluccas. *Exp.*, cloves. Lat. $3^{\circ} 41' S.$ long. $128^{\circ} 10' E.$
Amherst, capital of the most N. of the Tenasserim provinces, 39 miles from Moulmein. *Exp.* raw cotton, silk, teak, sandal-wood, sugar, rice, pepper, &c. Founded in 1826. Has a splendid harbour. Principal military station of the Amherst peninsula.
Amoy, on the W. side of the island of the same name, in the province of Fokien, China. *Exp.* tea, sugar, porcelain, paper, umbrellas, grass cloth &c. *Manu.* porcelain, paper, umbrellas, sugar-candy, &c. Captured by the English in 1841, but restored to China on the payment of six million dollars and permission to trade.
Anapa, on the Black Sea, 47 miles south east of Yenekale. *Exp.* grain, tallow, butter, hides, wax, &c. *Manu.* hides, butter, peltries, &c. Taken by the Russians in 1791 and 1807. Destroyed by Russia in 1855, but rebuilt the next year.
Aracan (Brit. India). On river Kuladyne. Capital of province of Aracan. *Exp.* honey, wax, ivory, drugs, &c.
Astrabad, on the Caspian, at the mouth of the Aster, in Persia. *Exp.* horses and cattle. *Manu.* silks, carpets, camel's hair stuffs &c. Name derived from Aster, the river on which it stands, and "abad," a home.
Baba, (Asia Minor). *Exp.* silk.
Baffa. (Cyprus). This was formerly a port of importance, but its harbour is now choked with sand.
Babasore (Hindustan), 123 miles from Calcutta. Its harbour is frequented by Maldivé and other coasting vessels.
Baku, Asiatic Russia, on Caspian Sea. *Exp.* cotton, fruit, opium, rice, silk, wine, rock salt, and naphtha. Lat. $42^{\circ} 22' N.$, lon. $51^{\circ} 7' E.$ Taken by Russia in 1801.

- Balfroosh**, on the Caspian ; in the province of Mazanderan, 20 miles from Sari, in Persia. *Exp.* silk and cotton goods. *Manu.* carpets, silk, cotton, &c. Ruins of a palace built by Shah Abbas.
- Bangkok**, capital of Siam, on the Meinam, 15 miles above its embouchure in the G. of Siam. *Exp.* cotton, sugar, pepper, lac, ivory, tin, rice, hides, birds' nests, woods, &c. *Manu.* hardware (tin and iron), and leather. Annual inundations. Buddhist Temples.
- Bassorah** (*Busorah*, *Busrah*, *Bassora*), on the Shat-el-Arab, formed by the junction of the Euphrates and Tigris, in the pashalic of Bagdad. *Exp.* the precious metals, dates, galls, raw silk, gold fringe, copper, horses, &c. *Manu.* cotton and silk goods, carpets, &c. Founded 656; taken by the Turks, 1668; by the Persians, 1777; deserted by them, 1778; taken by the Arabs, 1787; recaptured by the Turks some time afterwards. Walls are 7 miles in circumference.
- Batoom**, on the E. coast of the Black Sea, 110 miles from Trebizond, in Asiatic Turkey. *Exp.* cattle, fruits, fish, &c. Fine harbour.
- Bencoolen**, in W. of Sumatra. Lat. $3^{\circ} 47' 6''$ S., long. $102^{\circ} 19'$ E. The English settled here in 1685; and ceded the town to the Dutch in 1824.
- Beirut**, (*Bairout*, *Beirout*), in the pashalic of Saide, 60 miles from Damascus. *Exp.* silk, wine, oil, galls, madder, &c. *Manu.* gold and silver thread, silk stuffs, &c. Bombarded and taken by the British in 1840. Lat. $35^{\circ} 50'$ N., long. $35^{\circ} 26'$ E.
- Berbera** (Arabia). On Gulf of Aden. Annual fair held here, much resorted to. *Exp.* myrrh, incense, gums.
- Bombay**, on the island of the same name, on the W. coast of Hindostan. *Exp.* cotton, sandal-wood, pepper, gums, ivory, &c. *Manu.* hardware, ivory goods, sugar, indigo, silk goods, &c. Ship-building by the Parsees, very important. Rented of Charles II., by the E.L.C. for £10 in 1668.
- Borneo**, in N.W. of island of same name. *Exp.* nutmegs, mace, cloves, tin, gold, diamonds, birds' nests, sago. Lat. $4^{\circ} 56'$ N., long. $114^{\circ} 44'$ E.
- Busheer** (or *Bushire*), on a sandy peninsula, at the head of the Persian Gulf. *Exp.* raw silk, wool, shawls, carpets, horses, &c. *Manu.* shawls, carpets, &c. Taken by Admiral Leake, of the British fleet, in 1856.
- Calcutta**, capital of British India, on the E. side of the Hoogly, 100 miles from the Bay of Bengal. *Exp.* grain, saltpetre, silks, cottons, sugar, indigo, opium, &c. Name derived from "caly," (goddess of time), and "cutta," (a temple). First English factory in 1690. Bought and fortified (by the E.L.C.) in 1700. Bishopric in 1813.
- Calicut**, on the Malabar coast of Hindostan, 104 miles from Seringapatam. *Exp.* teak, sandal-wood, cocoa-nuts, pepper, cordage, wax, &c. Vasco de Gama landed here in 1498. And afterwards died here.
- Cambay**, at the head of Gulf of Cambay, 80 miles from Surat. *Exp.* corn, silk, cornelians, agates, ivory, spices, embroidery, &c. *Manu.* silk and cotton goods, articles in cornelian, embroidery, &c. Trade much decreased of late.
- Cannore**, (Hindostan). On Malabar coast. Chief military station of the British in Malabar. In 1501 the Portuguese built a small fort here, but it was taken by the Dutch in 1664. Tippoo Saib expelled these, and in 1790, it was taken by the British.
- Canton**, capital of the province of Quangtung, China, situated on a river of the same name, and about 70 miles from its mouth. *Exp.* tea, nankeen, porcelain, silks, mother-o'-pearl, &c. Was destroyed, 1650, by the Tartars, after a siege of eleven months. Taken by the British in 1840, but restored. On October 8th, 1857, a body of Chinese soldiers boarded her Majesty's ship, the *Arrow*, seized a part of the crew, and pulled down the English flag. And as Yeh, the High Commissioner, refused to apologize, war was declared. On the 5th of January, 1858, Canton was taken, and Yeh seized. After the allied English and French fleets had forced the entrance of the river Peiho, and sailed up the river to Tien-Tsin, commissioners were sent by the Emperor, and a treaty of peace was concluded June 26th, 1858.
- Cochin**, in the province of Cochin, in the S.W. of India. *Exp.* rice, arrow-root,

- coffee, sugar, cotton, ginger, pepper, fruit, &c. *Manu.* cotton, sugar, &c. Taken by the English in 1796.
- Columbo*, on the W. coast of Ceylon, of which it is the capital. *Exp.* cottons, cinnamon, pepper, &c. English took it in 1796.
- Cuttack*, India. *Exp.* cotton, rice, indigo, tobacco, and opium. *Manu.* cottons, and fine muslins. Lat. $20^{\circ} 25' N.$, long. $86^{\circ} 10' E.$
- Diarbekio* (Asiatic Turkey), on the Tigris. *Manu.* iron, copper, silk, wool, cotton, and morocco leather.
- Diu* (Hindustan), on an island S. of Guzerat, well fortified. It belongs to the Portuguese.
- Derbend*, on Caspian Sea. *Exp.* cotton, wine, silk, and salt.
- Erekli* (Asia Minor), on the Black Sea. It has ship-building yards and a good port.
- Fat-fo* (Anam, further India), on the China Sea. *Exp.* sugar, cinnamon.
- Famagusta* (Cyprus), now almost in ruins. The Turks took it 1571.
- Foo-chew* (or *Fou-tcheou*), capital of Fokien, China, 25 miles from the mouth of the Min. *Exp.* tea, raw silk and cotton, porcelain, sugar, paper, &c. *Manu.* cotton goods, porcelain, dyeing, &c. Principal bridge (of white stone) has more than 100 arches. Plumbago (?) and lead mines in neighbourhood.
- Galle* (Ceylon), steam-packet station.
- Gambroon* (anciently *Ormuz*), at the entrance of the Persian Gulf, 9 miles from I. of Ormus. *Exp.* silk, fruits, opium, otto of roses, carpets, precious metals, &c. *Manu.* silk goods, stuffs, carpets, &c. Called also "Bandar Abassi."
- Gayah* (Brit. India), on one of the mouths of the Ganges. *Manu.* silk and cotton. It is the supposed birth-place of Buddha.
- Gou*, on an island at the mouth of the Mandova river, on the Malabar coast of India; rapidly decaying. Lat. $15^{\circ} 29' N.$, long. $73\frac{1}{2}^{\circ} E.$
- Hue*, the capital of Anam, on the river Hue, about 10 miles from its mouth. *Exp.* cotton.
- Hyellee* (India), on an island in the Hooghly. *Manu.* salt. *Exp.* millet, rice, sugar, &c.
- Ismed* (Asiatic Turkey), on an inlet of the sea of Marmora. *Exp.* silk, and fruits of various kinds.
- Jaffa*, or *Yaffa* (anciently *Joppa*), on the Mediterranean, 34 miles from Jerusalem. *Exp.* soap and cotton, with water-melons, oranges, lemons, and other fruits. Taken in 1799 by Bonaparte.
- Jeddo*, the capital of Japan, at the head of a deep bay, on the E. coast of Nippon. *Manu.* silk and cotton goods, porcelain, lacquering, &c.
- Jidda* (Arabia), on the Red Sea. *Exp.* coffee and gum. Lat. $21^{\circ} 28' N.$, long. $39^{\circ} 15' E.$
- Latakia* (Syria). *Exp.* silks, wines, and tobacco. Lat. $35^{\circ} 30' N.$, long. $35^{\circ} 46' E.$
- Macao* (China). *Exp.* tea, nankeen, and silks. Lat. $22^{\circ} 11' N.$, long. $113^{\circ} 32' E.$
- Madras*, the capital of the Madras presidency, on the Coromandel coast, about 250 miles from Seringapatam. *Exp.* cotton, sugar, indigo, grain, wax, &c. Taken by the French, 1746; by the English, 1749. Bishopric, 1835.
- Malsmai* (Japan), on the island of Jesso. Trades with the other Japanese islands.
- Malacca* (Malay States), ceded to England in 1825 by the Dutch, in exchange for some possessions on the island of Borneo. *Exp.* rice, sugar, coffee, indigo, chocolate, pepper, spices, &c.
- Mandave*, at the S. extremity of the island of Cutch. *Exp.* coffee, precious stones, opium, cotton, sugar, &c.
- Mangalore*, on the Malabar coast, 180 miles from Seringapatam.
- Martaban* (Birmah). *Exp.* raw cotton and silk, sugar, pepper, tin, teak, rose and eagle woods. Lat. $16^{\circ} 32' N.$, long. $97^{\circ} 40' E.$
- Masulipatam*, on the Coromandel coast, at the mouth of Kistna. *Exp.* sugar, cotton, gums, pepper, &c. *Manu.* cotton and silk goods, hides, &c.
- Matomat*, at the S. extremity of the island of Jesso. *Manu.* porcelain, cotton, &c.
- Moulmein*. *Ch. exp.* teak, timber, rice, tobacco, ivory, cocoa-nuts. *Ch. manu.* ship-building. Was founded 1825.
- Mocha*, or *Mokha*, on the Red Sea, not far from the southern extremity of Arabia. *Exp.* the finest coffee in the world, gums, drugs, &c.

- Muscat*, on the E. coast of Arabia, in the division Oman. *Exp.* coffee, pearls, gums, drugs, myrrh, &c. Dépôt for the goods of Persia and India.
- Nangasaki*, on a peninsula on the W. side of the island of Kiû-Siû, one of the Japanese group. *Exp.* the precious metals, copper, lacquered ware, porcelain, silk and cotton goods, &c. *Manu.* porcelain, hardware, articles in ivory, varnish, drugs, silk and cotton goods, &c.
- Ning-po* (China), on the China Sea. *Exp.* tea, silk, fruits, &c.
- Okhotsk*, the capital of Okhotsk, in Siberia, situate on the sea of the same name. *Exp.* precious stones, furs, metals, &c.
- Osaka* (Japan), on the island of Nippon. Trades with the other Japanese ports.
- Pondicherry*, chief French settlement in India. *Ch. exp.* rice, cocoa-nuts, teak and sandal woods. Purchased by the French, 1672. Taken by the British, 1761, 1778, 1793, and 1803. Restored at the treaty of Paris, 1815.
- Petropaulovsk*, at the S.E. extremity of Kamtschatka, a part of Siberia. *Exp.* gold, furs, tallow, diamonds, &c. Name signifies "the port of Peter and Paul."
- Prusa* (*Brussa*, *Broussa*), an important city of Asia Minor, on the Sea of Marmora. *Exp.* fruits, silk, drugs, leather, &c. Noted for its springs. Former burial-place of the Sultans.
- Rangoon*, on the Irrawady, in Birmah. *Exp.* timber, metals, sugar, pepper, &c.
- Shanghai*, near the mouth of the Yang-tse-kiang, in the province Kiangsu, China. *Exp.* tea, raw silk, porcelain, cotton, nankeen, &c. *Manu.* porcelain, silk, &c.
- Singapore*, on an island of the same name, at the S. extremity of Malacca. *Exp.* fine timber, indigo, gums, drugs, varnish, paper, &c. Founded by the British, 1819.
- Smyrna*, on the W. side of Asia Minor, the Levant. *Exp.* figs, and other kinds of fruit; silks, stuffs, leather, honey, oil, carpets, soap, &c. Claims to be the birth-place of Homer.
- Tranquebar* (India). *Exp.* silk and cotton, diamonds, teak, rose and sandal woods. Lat. 11° 1' N., long. 79° 50' E.
- Trincomalee*, Ceylon. *Exp.* cinnamon and pearls. Lat. 8° 32' N., long. 35° 50' E.
- Tripoli*, Syria. *Exp.* leather. Lat. 34° 26' N., long. 35° 50' E. Bombarded by British in 1840.
- Trebizond*, on the Black Sea, in Armenia. *Exp.* carpets, silk, cotton, fruits, wine, &c. *Manu.* wine, cotton and silk, stuffs, &c.
- Tyre*, on the Mediterranean, in Palestine, 22 miles from Sidon. Harbour almost choked up with sand. People engaged in fishing. Formerly the most commercial city in the world. Called also Sûr.
- Good papers were sent by the following:—Alphonso, Jean C., R. D., James Hepple, Blanche, J. W., Antiquarian, John Mc Millan, J. T. Ridley.

INTELLIGENCE.

DEATH.—Died, of consumption, on August 7, at West Wickham, Kent, John Rennison, aged 20 years, fifth-year Pupil-teacher of Regent Square Church National Schools, St. Pancras, London. Deceased has been a frequent contributor to the pages of the PUPIL-TEACHER, under the assumed name of "PEN." His end was peace.

[Properly authenticated notices of Deaths of Pupil or other Teachers, or Marriages of Teachers, will find a ready admission into our pages, if the friends interested will kindly furnish particulars.—ED. P.T.]

THE FEUDAL ARISTOCRACY.—"Of the 25 barons who were appointed to enforce the observance of Magna Charta," says Sir Bernard Burke's second series of *Vicissitudes of Families*, "there is not now in the House of Peers a single male descendant."

Notices of Books.

Examples in Algebra, for Senior Classes. Comprising numerous graduated examples in Fractions, Surds, Equations, Progressions, &c., with the Examination Papers for Civil Service, Staff, and Artillery Appointments; College of Preceptors, London University, and Oxford and Cambridge Middle Class Examinations. By J. WHARTON, M.A., M.C.P., late Examiner in Mathematics for the College of Preceptors. London: C. F. Hodgson, 1, Gough Square. Cloth, 12mo, pp. 168. Price 3s.

Examples in Algebra for Junior Classes. Adapted to all text-books, and nged to assist both the tutor and the pupil. 4th ed. pp. 72. Price 1s.

The Key; containing complete Solutions of the Examples in Algebra, for Senior Classes. By J. WHARTON, M.A., M.C.P. London: C. F. Hodgson, 1860. Parts I., II., and III. One Shilling each.

These are works which we have carefully examined, and which we can recommend to our readers. Mr. Wharton is thoroughly up to his work, and he gives first-rate examples. We wish that some of our mathematical tyros, instead of trying their ingenuity in *forming* examples, would *select* them; they would save themselves much annoyance, and us much trouble. Month after month we are obliged to throw aside questions which *might* turn out to be very ingenious; but as the solutions are not sent with them, and they seem to be originals, we must be shy of them. We have on a few occasions, after *repeated applications*, published questions without previously examining them, and then discovered that they were, if not absolutely absurd, ridiculous. Sometimes we have tasked ourselves to solve an equation or "find out" an arithmetical *catch*, and our reward has been the conviction, that, had we yielded to the importunities of certain contributors, we should have blundered egregiously. In some cases, silly, if not absurd questions, are sent well written and of masterly appearance. Again, we get good questions *disguised* in absurd language.

By one of those accidents from which even editors are not exempt, a rejected "mathematical query" found its way into our bundle of *accepted* "mathematical queries," and it narrowly escaped publication *this month*. It was sent early in July. This is it:—

There is a square, an equila', triangle, and a round,
The sum of their perimeters, in the margin, is found to be
121 chains 7 links. $\frac{2}{3}$ of the area of the round $\frac{1}{4}$ of eq. just be;
 $\frac{2}{3}$ of the triangle's content is just $\frac{1}{10}$ of all three.
Each perimeter and area is what I require,
Now give me an answer, kind gentlemen, I desire.

The contributor of this "specimen" assures us that he has been a reader of our "valuable paper from its commencement." This is not very flattering to us; we have not enabled him to write mathematical poetry at all events. But we will not publish his name—not even his *nom de plume*. If he keep his own counsel this little affair will "blow over" by and by. If he continue to patronize us we shall make something of him yet; at the least, we will try to do so.

We have digressed; but in recommending Mr. Wharton's excellent *Examples in Algebra* to our readers, we could not resist the temptation to call attention to a subject in which all interested in our periodical are concerned. Mr. Wharton appears to have anticipated the difficulties of the student at each step, and his *examples* prove him to be not only a proficient algebraist, but also an efficient teacher of algebra. If it be true that "a man cannot have too much of arithmetic," the importance of algebra—the universal arithmetic of Newton, cannot be over-rated.

NOTICES OF MUSIC.

The Home and School Hymn-Book, containing the Words and Music of 111 Popular Tunes and Hymns, generally known and much approved of by Sunday-School Teachers and Scholars. London: The Music-Publishing Company, Limited. Cloth, pp. 128. Price 1s. 6d.

This cheap little book is well described by its title. It is a work which defies criticism, for it makes no pretension to excellence with regard either to words or music. The words and the tunes are "generally known and much approved of by

Sunday-School Teachers and Scholars." The tunes are arranged in Short-score for the voice, or for the piano, harmonium, &c. "The Music-Publishing Company" are proprietors of the establishment so many years conducted by Mr. G. H. Davidson, 19, Peter's Hill, St. Paul's. The manner in which the specimens before us are got up proves that the Company are determined to maintain the reputation which Mr. Davidson gained for *cheap* music. We need not remind our friends that lowness of price is not the only test of cheapness; but even as regards lowness of price the successors of Mr. Davidson challenge competition.

Davidson's Book of Chants and Graces, containing 50 Chants, by ancient and modern eminent Composers. Arranged in Short-score for four voices, and adapted for the organ, harmonium, or pianoforte; also the Canticles of the Church of England, for Morning and Evening Services, Hymns for the following occasions:—Ordination—Christmas-Day—Holy Communion—Thanksgiving, Morning and Evening,—and Graces to be sung before and after meat. London: The Music-Publishing Company. Cloth, pp. 64. Price 1s.

This is uniform with the Home and School Hymn-Book. By an arrangement with which most of our readers are familiar, each canticle and hymn is so printed that it may be sung to any of the chants; the words and syllables appearing exactly under the notes to which they are to be sung. The Chants and Graces are popular ones, well selected and well arranged.

New Tunes to Choice Words. In four Parts; so arranged that they may also be sung in one, two, or three parts: with Instructions for their Performance; intended for the Use of Schools and Home. Words selected and Music composed by T. MURBY. London: Groombridge and Sons. Part I. Price 6d.

We have here eight pieces, each arranged in short score, so that it is as well adapted to the piano, &c., as to voices. In his Prospectus, Mr. Murby tells us that "in the composition of the music, the true and effective expression of the words and sentiments of the poetry has been the chief end sought." Mr. Murby has certainly been most successful in his laudable undertaking. The chief failing observable in school-singing is want of *expression*. It is a good idea to employ *new tunes* for teaching expression, if these tunes are good ones, such as Mr. Murby's. "The Graves of a Household," "Excelsior," and "The Sabbath Bell," are beautifully rendered. "Casabianca," "The Village Blacksmith," and the "Pilgrim Fathers," are, we think, second in order of merit. We cannot congratulate Mr. Murby on his taste in accounting the "Song of the Grass" and "The Wandering Boy" *choice words*. The "Song" is a good idea in very bad rhyme. We have *city* to rhyme with *meet me*; *welcome me* to rhyme with *shady tree*, and *sever'd* to rhyme with *buried*! "The Wandering Boy" is altogether unworthy of a place amongst *choice words*. Its redeeming quality is its brevity—only two four-line verses. In the first we have *eye* to rhyme with *boy*; in the second, *I* to rhyme with *boy*. Even our friends in the northern counties will find fault with this. The words of the piece are indeed little better than sheer twaddle—

"No father, no mother, no kindred have I,
For I am a *parentless*, wandering boy."

Thus ends this precious specimen of *choice words*! That a boy who has neither father or mother is *parentless*, and that a parentless boy has neither father nor mother we can understand (*poetic licence* will allow a *little* tautology); but that he should have *no kindred* because he is "parentless," or that he should be "a wandering boy" because he has no father or mother, *rather* baffles us. We are, perhaps, a little more severe than it is worth while to be, and much more so than we like to be; but as we hope that Part I. of "New Tunes to Choice Words" will prove the first of a deservedly-popular series, we suggest that Mr. Murby will do well to avoid setting good music, or any music at all, to doggerel verses, whilst *choice words* are abundant.

Come then, Join the Soldier; the Words written by D. CARTER, the Music composed by W. T. BELCHER. London: J. H. Jewell.

The name of the composer of this *seasonable* song is well known to many of our subscribers. Mr. Belcher is the composer of "I wish you a Merry Christmas," "A Happy New Year," and numerous other songs. The music is just the right sort for a marching song, and no doubt it will for years be a memento of the volunteer movement.

Notes to Correspondents.

All Communications for the Editor should be addressed "The Editor of the Pupil-Teacher, 54, Paternoster Row, London, E.C."

METHOD OF ASKING OR ANSWERING QUESTIONS.—Our numerous correspondents would save us an immense amount of labour, and be less liable to disappointment from their communications not being promptly attended to, by attention to the following points:—

1. Write *only on one side* of the paper.
2. Keep each subject distinct from others.
3. *Head* each subject thus:—"Editor's Council," "Notes and Queries," "Editor's Questions," &c. &c.
4. Leave a space at the top and at the bottom of the paper.
5. Write your (real or assumed) name on each separate paper.
6. Always let your communications be accompanied by your name and address. For *publication* you may adopt any signature you please.

Thanks.—Alphonso; E. B. Loynd; J. Sinclair; James Hepple; D. Moon; Arthenice; H. Tassell; G. Smith; S. E.; C. F. Redman; Omega; J. W. Mills; Troisième; J. Lightfoot; Pharamond; Aaron Smith; Robin Hood; Welsh Mountaineer; T. H. C.; Sarai; J. Overend; Violet; C. A.; T. J. T.; W. Shaw; Blenheim; Sedis; Pastime; C. Ashen; A. Parkinson; Lizzie; A. Johnson; El tio-tomas; W. J. Harrison; N. Sanderson; Gwylm Joan Tuduo; B. N. Hilder; Unknown; J. R.; T. T. and D. J. Abergwili; E. J. Paul; Trout Fisher; Sobriquet; G. M. Sharp; Iva; W. A. Rothwell; E. Cryer; J. Jarrett; Apollo; Saperç Aude; T. H. C.; B. Etips; David Davidson; T. E. Jones; Trigon; R. Stratton; J. H.; Oxoniensis; Ekruob; Annie (Margate); Bretwaldia; John Helen; Benedict; Campbeltown; Taibach; Biceps; A Romillyte; J. Trench; Thos. L. Simpson; Forward; Silex; T. J. C.; Lucretia; W. G. W.

Received.—James Hepple; Alphonso; Gomer; Sosipater; E. B. Loynd; R. Fishenden; Lionel; Mary; Heavenly-mindedness; S. Howell; M. Michell; A Wesleyan Methodist; C. T. Redman; Welsh Mountaineer; Elgin; J. M. G.; Foo-chewfoo; Mars; Violet; T. J. T.; Blenheim; A. Parkinson; C. Ashen; Ida May; Leonardo-da-Vinci; Pastime; E. Cryer; Bagdad; Apollo; Saperç Aude; Trigon; W. G. W.; Nil Desperandum; Forward; Taibach; John Browne; Limpy Lumpy.

ANSWERS TO CORRESPONDENTS.

H. Roberts.—Send 32 Stamps to Mr. Stevenson, our Publisher, who will send you by return of post, a copy of "The Beginner's Atlas," a new work, just published in 4to—24 maps beautifully coloured and with the most recent corrections. The most elegant and most accurate Atlas we ever saw at the price. Every Pupil-teacher should have a copy who does not already possess a useful Atlas.

Essays, &c. (Heavenly-mindedness).—We like your suggestions better than we like your *nom de plume*, and in our November number we will call attention to them. *Perhaps* we shall act upon them.

Poetry—"Nature" (A Constant Subscriber).—Your lines want *polish*; they are not rhythmical. Try what you can do with them; we shall be glad to see your revision.

Partiality (A Wesleyan Methodist).—Before we answer your charge fully, we beg to state that in our "Notices to Correspondents" each month, we acknowledge all contributions, answers, &c. If you do not see your name in the list, you may depend upon it that your communications have not come to hand. In what months did you contribute? On what subject or subjects? Under what name?

Other Correspondents.—Answers unavoidably kept back this month.

THE PUPIL-TEACHER.

UTILITARIANISM.

(Continued from page 228.)

MR. GRUBBINS prided himself upon being a Utilitarian.

It may be deemed a pardonable digression from our story to say a few words about Utilitarianism.

Amongst the thousand-and-one *isms* of this very wise generation, Utilitarianism makes vigorous exertions to hold a prominent place. It shows itself everywhere. It struts about in our Universities, sententiously drawling out "*Cui bono?*" It lounges against lamp-posts, dead walls, or wherever else it can lounge, churlishly growling out, "What's the good of it?"

"Ah, but that's not Utilitarianism." "Yes, it is." "No, it isn't." Well! as you will; it is, or it is not. We are not inclined for a discussion, especially as we shall have double duty to perform, inasmuch as we shall have to find arguments for you as well as for ourselves. If you recognize, under any other term, what for the occasion, we choose to designate Utilitarianism, it will answer present purposes tolerably well, and save us and you a world of unnecessary trouble.

Utilitarianism was always a bore; but since our grandfathers were little boys it has become almost a nuisance, especially to Teachers, and *more* especially to young Teachers. The older it gets, and, like other abominations, it gets older every day, the more garrulous it becomes. It grows not in wisdom, but it increases in impertinence. We actually heard it asked, a few weeks since, "What is the use of all that thunder?" It would, if it could, re-model everything, visible and invisible; and a pretty re-modelling it would be!

Utilitarianism is as presumptuous as it is ignorant. We may smile at the suggestion of Robinson Crusoe's "Man Friday," for the summary eradication of evil by the immediate destruction of the Prince of Darkness; but it is wisdom, compared with the suggestions and propositions of some of our Utilitarians. Most of us have met with political reformers who would at one fell swoop level all distinctions between man and man—place all on an equality—recognize no human authority whatever, and bring about such a state of things as can be imagined by no rational being. Most of us have met with social reformers who would at once do away with a "bloated aristocracy" and a starving multitude by an equal distribution of the wealth of the world amongst its human inhabitants. Many a panacea for all the ills to which the flesh is heir has been offered. In short, Quackery has given its attention to evil in its every shape and form; found remedies for it; and but for some reason or other not quite satisfactory to matter-of-fact people, would have, long since, left nothing to be desired except a continuation of the Paradisiacal bliss established by its profound wisdom.

Utilitarianism, however, does not profess to do anything very extraordinary. It does not profess to abolish evil. It is content to let the world

know that whatever is, is wrong, and to advise us to make evil endurable rather than to lessen it. It affects to despise Quackery, which is perhaps its superior. Thoroughbred Quackery will undertake anything, and profess to do everything. Utilitarianism proposes to do as little as possible, and to prove that that little is superfluous.

We shall not attempt to bestow even a passing notice on the various phases, vagaries, and fallacies of Utilitarianism, except in their influence on the great social question to which it is our bounden duty to apply our energies, namely, Popular Education—the Education of the masses.

Quackery professes to do wonders for Education. It will teach a language in a few months, without a Master; in a few lessons, with one. It will qualify all bad writers to become writing-masters, after six lessons. And, to crown all, it will, in Elementary Schools, dispense not only with the Bible, but also with all religious teaching; and yet it will fit children to become better men and better women than have ever yet formed a community. All this, and more too, Quackery professes to perform, and attempts; we all know with what results.

But the progress of Popular Education is retarded more—much more—by Utilitarianism than by Quackery. Quackery represents Education as good that may be easily acquired. Even its attempts to teach sound morality without religion are not so dangerous as some good people imagine. At the worst, Quackery recognizes the advantages of Education; and it opens a way for it. Utilitarianism, on the other hand, is the great detractor—the libeller of Education. Quackery overrates advantages, and under-rates difficulties. Utilitarianism does the very reverse. Many other points of contrast between Quackery and Utilitarianism will be suggested in the course of our observations on the hindrances which Utilitarianism places in the way of Popular Education. The pet maxim of Utilitarianism, with regard to Education, is, that everything should be brought to the test of utility. In the maxim itself, there is nothing to find fault with. It is a folly to teach children what will be of no use to them in after life. It is folly to insist on Teachers pursuing branches of learning which will not yield either pleasure or profit, to themselves or to those whom they will have to instruct. Time—especially the time of the children of the poor—and the time of those who will have to engage in the onerous though honourable duties of Education, is too precious to be wasted in the acquisition of learning, unless that learning can be turned to good account.

But the great question is—What is the *test* of utility? It is in the endeavour to answer the question that Utilitarianism displays its ignorance and its presumption. It proposes to teach nothing which cannot be turned to good practical account by the learner. So far; well. It will undertake to say what will be useful to the learner. This, again, is right enough. But it insists on going further and going wrong; it insists on determining what acquirements cannot be turned to good practical account by the learner; it undertakes to say what studies will be useless to him, and this, too, in opposition to those who have made Popular Education the study of their lives.

Utilitarianism is not confined to any particular class, nor are all its *rotaries uneducated persons*. But Utilitarianism maintains its characteristics under every change of circumstance. It is consistent only in its

inconsistency. To sum up; Utilitarianism is to Education what Rationalism is to Religion. It ignores the fact, that Education utilizes every physical, mental, and intellectual faculty which it develops. Similarly, Rationalism ignores the fact, that Religion is never contrary to Reason, though sometimes superior to it.

If Utilitarianism confined itself to inquiry—deep, philosophic inquiry—as to the adaptation of certain Educational processes to the end proposed, and if it could demonstrate that children may be educated better by being taught fewer subjects, it would be a boon, instead of being, as it now is, a bane to Education.

But Utilitarianism would consider it a waste of labour and of time to make Popular Education the subject of philosophic inquiry, or any inquiry at all. In deference to public opinion, it would submit to allowing the children of the poor to be taught reading, writing, and arithmetic, *in moderation*—which means, *not too well*. In girls' schools, needlework would meet with their cordial approbation.

Any fool can ask questions which seven wise men may not be able to answer. We do not wish to convey the impression that all Utilitarians are fools. They are often what are termed shrewd people—people who pride themselves on, and are remarkable for, “good common-sense.” They are often well-meaning persons, and philanthropists in a restricted sense.

(To be continued.)

NOTES OF A LESSON ON CHEMISTRY.

IV.—ON CALORIC.

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| I. Introduction and General Observations. | (5.) Through Liquid and Æriform Bodies. |
| II. Properties and Peculiarities of Caloric— | (6.) Remarks. |
| (a) Its tendency to an equilibrium. | (d) Caloric, the Cause of Liquidity. |
| (b) Expansion of Caloric: | (e) Caloric, the Cause of Vapour. |
| (1.) In Solids. | III. Specific Caloric. |
| (2.) In Liquids. | IV. Sources of Caloric— |
| 1. The Thermometer. | (f) The Sun. |
| (3.) In Gaseous Bodies. | (g) Combustion. |
| (c) Passage of Caloric through Bodies— | (h) Percussion. |
| (4.) Through Solids. | (i) Friction. |
| | (j) Chemical Mixture. |

I.—Caloric is a word adopted by modern chemists to represent the matter or principle which produces heat. Caloric is supposed to exist in all bodies, although in many cases it may not be perceptible by ordinary means, and when so, it is denominated “latent heat,” taking its name from the Latin verb “*lateo*,” to lie hid. When caloric or heat can be detected by the thermometer, or any other ordinary means, it is called “free caloric.” All bodies are capable of receiving free caloric, and most of them are calculated to contain more or less latent heat or undiscovered caloric hidden in their substance. Radiant caloric is so called when heat

makes its escape from the surface of bodies and penetrates its way through space, independently of other matter. For instance, a body artificially heated, on being exposed to the atmosphere, will continue to emit radiant caloric, until it is nearly the same temperature as the surrounding air. The cause or causes of heat are not generally known as a fact, philosophers and naturalists entertaining two distinct opinions on this point. Some, also, pronounce caloric to be a material body, while others agree to its being only a property belonging to substance.

II.—Caloric is discharged in rays from the sun at the rate of twelve millions of miles in a minute; is reflected by polished surfaces; composed of particles which repel one another; refracted by transparent substances, and produces no apparent effect on the gravity of other bodies. All the foregoing properties are common to light as well as caloric; but light affects the sensation of vision, while caloric produces the contrary sensation of heat.

(a.) One of the most remarkable properties of free caloric is its tendency to an equilibrium, which has been made known to us by the aid of an instrument called the thermometer. A person's hand brought in contact with a marble slab, would, at first, feel very cold, but the feeling would gradually diminish as the temperature of the hand was being brought on an equilibrium with that of the slab; or, in other words, the hand, containing more heat than the marble, would impart a portion of its caloric to the slab, until both became of the same temperature. If a piece of ice was to be placed upon the same slab, it would dissolve, in consequence of the amount of heat it would draw or receive from the marble. This proves, therefore, that ice contains less caloric than marble, and marble less than a person's hand. For a similar reason, a man feels cold on first bathing in cold water, because the body contains much more caloric than the water, but the coldness is afterwards removed by his body gradually giving out a portion of its caloric, until it becomes of the same temperature as the water. It may now be seen why metals and other bodies when artificially heated, by degrees become cold when exposed to the atmosphere.

(b.) Caloric has the property of increasing the size of bodies, without adding to their weight. Liquids, by the aid of heat, extend more than solids; and liquids less than aeriform bodies.

(1.) That caloric increases the size of solids, may be seen by the following simple experiment. Make a hole in a piece of tin that will just allow a rod of iron to pass through it. This being done, add caloric to the iron rod, by heating it in a fire until red-hot, when it may be removed, and will be found to have expanded to such an extent, that it will be impossible for it to pass through the same hole in the tin. When bodies are expanded by being artificially heated in this manner, they regain their original size on getting cold, as may be seen on the cooling of the iron rod in the above experiment, for it will then, as before, be able to pass through the hole. It must be kept in mind that bodies expand in length as well as in breadth by the aid of caloric, and that nothing is added to their weight by its introduction.

(2.) That caloric expands liquids may be seen by filling a saucepan about three parts full of water and placing it upon a fire; when, as the water

gets warmer, it takes up more room than it did before, and gradually fills up the whole of the saucepan. If the saucepan is taken off the fire at this juncture, the water, by gradually losing its caloric, will sink down to its former dimensions, in the same manner as the rod of iron in the experiment showing the expansion of solids; so that it may now be seen that caloric abstracted from bodies diminish their size.

[1. This property of liquids is exemplified in the structure of the thermometer. The thermometer may be easily made, it being simply a hollow tube of glass, chemically or closely sealed, and having at one end a hollow globe or bulb, which is filled, as well as a portion of the tube, with quicksilver or something equivalent to it. When the bulb containing the quicksilver is put into a hot body, the mercury expands and rises in the tube, and when put into a cold body, the mercury, losing a part of its caloric, consequently diminishes in size and falls in the tube. Therefore, the rising of the fluid in the tube shows an increase of heat, and its falling a diminution of it. The instrument is generally fixed in a wooden frame, and divided into a number of equal parts, denominated degrees. Now, snow always melts at the same temperature, that is, it always requires the same amount of heat to melt it. It is obvious, therefore, that the mercury in a thermometer put into melting snow ever so often will always stand at the same point in the tube. In like manner, water also boils at the same temperature. If, then, a new-made thermometer is put into melting snow and the part marked 0 where the quicksilver is found in the tube, this point will be the freezing point of the instrument. Again, if it is plunged into boiling water the mercury will be found to have risen very considerably in the tube above 0', and the point indicated may be marked off as the boiling point, and represented by 100. This being done, the parts of the tube between the freezing point and boiling point may be divided into one hundred equal parts, each part being called one degree, and as many other similar parts may be marked off above or below the freezing and boiling points as convenient. All other thermometers made in like manner as the one just described will stand at the same degree with it when brought in contact with the same body, and all such thermometers may be compared together.]

(3.) The expansion of gaseous bodies may be proved by filling a bladder half full with common air, and binding its neck in such a manner as to prevent the escape of the inclosed body. By holding the bladder near the fire it will soon distend and burst in consequence of the great expansion of the air within it, caused by the addition of the caloric.

(c.) Caloric does not pass through bodies in rays, and its passage through them is somewhat slow.

(4.) That caloric passes through solid bodies may be seen by putting one end of an iron poker into the fire and attaching to the other end a portion of sealing-wax; after a while enough heat will pass through the poker as to cause the sealing-wax to melt. The colour of bodies has considerable power in making them absorb and retain caloric. This was shown by Dr. Franklin, who, on a winter's day, took four pieces of woollen cloth of equal sizes, but of different colours; viz., black, blue, brown, and white, and laid them on the top of the snow, close to each other. ~~Next~~

a while the black cloth had sunk very considerably below the top of the snow; the blue nearly as much, the brown less, and the white remained exactly in its original position. Hence it appears in this experiment that the sun's rays were absorbed by the dark coloured cloth to such an extent as to melt the snow underneath, but were not able to penetrate the white. From this it is obvious that it is best to wear light-coloured cloths in summer and dark ones in winter.

(5.) Liquids and æriform bodies convey heat by a change in the position of their particles, which may be seen with regard to liquids by the following experiment. Into a glass tube, sealed at one end, pour a little water coloured with litmus, and then gently fill up the tube with common water so as to keep the two colours distinct. If the bottom part of the tube is heated, the infusion will ascend and colour the white liquid.

(6.) Some bodies allow heat to pass through them more quickly than others. Those bodies which allow heat to pass through them without obstruction are denominated good conductors. Hence silver, gold, platinum, copper, iron, zinc, and tin, are specimens of good conductors of caloric; while silk, cotton, wood, and wool are specimens of bad conductors. It is obvious that good conductors would form bad articles of clothing.

(d.) Nearly every solid is capable, by the aid of caloric, to change itself into a fluid state. Ice, for instance, becomes water on the application of heat. Metals, again, pass into the fluid state by the addition of caloric, as well as innumerable substances.

(e.) All liquids are capable of being changed into vapour by caloric. Pure water boils always at 212° , according to Fahrenheit's thermometer. The freezing point in Fahrenheit's thermometer is marked 32° , and the boiling point 180° ; so that water is said to boil at $180^{\circ} + 32^{\circ} = 212^{\circ}$. On reaching this point water cannot be made any hotter, and then it begins to turn into vapour. The vapour is formed at the bottom of the vessel employed, and makes its escape through the heated fluid into the atmosphere. That this is really the case may be seen by boiling some water over a spirit-lamp in a Florence flask.

III.—Bodies equalized in temperature do not contain equal quantities of caloric. However, equal parts of the same body contain similar quantities of caloric at the same amount of temperature. Every substance requires a certain quantity of heat to raise its temperature through so many degrees, and that portion is called its specific caloric. The specific caloric of water is double that of oil, because an ounce of water will take twice as much heat as an ounce of oil to raise its temperature through the same number of degrees.

IV.—We now come to the sources of caloric.

(f.) The chief source of caloric is from the sun, it being transmitted to our earth with great velocity, as before stated. The rays of heat can be collected as they proceed from the sun by a convex lens, and will produce heat enough to melt a piece of platinum or set fire to a piece of rag or paper.

- (g.) Caloric can be produced by the burning together of two bodies, which is called combustion.
- (h.) If a piece of iron is quickly struck it becomes red hot, and therefore produces caloric. Flint and steel brought sharply in contact with each other will also give caloric.
- (i.) Savages nearly always produce fire by friction; viz., by rubbing a hard piece of wood against a softer piece. If a brass button is violently rubbed on wood it will become exceedingly hot. Lucifers are lighted by friction.
- (j.) Caloric can be produced by chemical mixture. For instance, a mixture of water and vitriol, or sulphuric acid water and zinc, will produce caloric. One part of oil of vitriol and two parts of water will produce enough heat to boil an egg in a very few minutes.

CHARLES F. REDMAN.

(To be continued.)

NOTES OF A LESSON ON COAL.

I. *Introduction*.—To secure the attention of the class, show a piece of coal. Ask the name; then inform the scholars that is to be the subject of your lesson. Explain the matter, and question under each head in succession.

II. *Definition*.—It is a hard, black substance, of a slaty structure.

III. *Formation*.—In nine cases out of ten, it is quite plain that coal is formed by the action of certain chemical powers on wood or other vegetables. For instance, trees have been found in coal districts, with one end formed into coal, while the other was natural wood. The shapes of ferns, too, are often seen impressed on the solid coal. The most elementary form of coal is *peat*.

IV.—*Where found*.—It is very abundant in Great Britain, and is generally found near the sea or large rivers, very conveniently situated for distribution by water or railway. The coal-fields of England are divided into:—

- (a.) Great Northern district, including the district north of the Trent.
- (b.) Central district, including Leicester, Warwick, Stafford, and Shropshire.
- (c.) Western district, sub-divided into:—
 - (1.) North-Western, including North Wales.
 - (2.) South-Western, including South Wales, Gloucester, and Somerset.

V. *Method of Working the Mine*.—The first process in the working of a mine is to sink a pit, or, as it is called, a shaft. Then to cut broad straight passages in opposite directions, called *bords*, 12 or 14 feet wide, and from the top to the bottom of the seam of coal, exposing the rock above and the stratum below. When the bord has been cut for some distance, narrow passages, called *headways*, are cut from it to communicate with other bords parallel to the first. Thus the bed of coal is traversed from end to end by these *bords* and *headways*. The coal is raised by steam power. A block of coal was exhibited at the Great Exhibition of 1851, weighing 13 tons, which was conveyed 70 yards underground to the

bottom of the shaft, and raised from a depth of 165 yards, by the usual steam-engine. Another block was raised at Stavely, Derbyshire, from a shaft 153 yards deep. It measured $17\frac{1}{2}$ feet long, 6 feet wide, 4 feet thick, admitting of being split into squares, or oblong masses like bricks.

VI. *Varieties*.—The most valuable coal is the *caking*, or *bituminous* coal, very abundant in the coal-fields of Britain, of which there are many varieties, as *Scotch Parrot coal*, of a brownish black colour and slaty formation, yielding much gas. *Lancashire Cannel coal*, which burns readily, and has been used as *candles*, whence its name. Beautiful toys and ornaments are made of this coal, it being of a waxy lustre. Newcastle coal has a full, blue-black colour, and shining lustre, square fracture, bright flame, and yields a valuable coke. *Steam-coal* is the name applied to several kinds of Welsh coal, being preferred in the steam-navy, as it yields but little smoke, and is not liable to crumble in the vessel during its rolling. There is also the *Anthracite*, *stone-coal*, or *culm*, which in case of heating splinters in fragments. It is used to burn lime, being inconvenient as a fuel for other purposes. There is also *lignite*, or *brown coal*, being of a brown colour and woody caking structure.

VII. *Accidents to which Miners are subject*.—The miner is, perhaps, subject to some of the most fearful accidents imaginable. One of these is from the escape of an inflammable gas, produced by the coal itself, called *carburetted hydrogen*, being a compound of carbon and hydrogen, which is liable to explode on being approached with a lighted naked candle, which of course spreads destruction and causes much loss of life. This gas is called *fire-damp* by the miners. The scene after such a disaster is most appalling. For—

“Here might you see
Men, slain or half dead, in one huge, ghastly heap,
Promiscuously amassed. With dismal groans
And ejaculations, in the pangs of death.
Some call for aid, neglected! Some o’erturned
In the fierce shock, lie gasping, and expire.
Horror thus, and desolation, reign unrespite.”

PHILLIPS.

VIII. *Inventions Preventive of such Accidents*.—After many accidents of so sad a character as that I have just related, it was thought necessary to seek the aid of science. In this case of need, Sir Humphrey Davy was applied to. He set his wits to work, and invented the *Miner’s Safety Lamp*, which is surrounded by a wire gauze, so that the flame has no power on the gas that explodes in so fearful a manner if approached by a naked candle. The pitmen call this lamp the *Davy*.

George Stephenson also invented a good safety-lamp. But Sir Humphrey’s invention surpassed his.

IX. *Uses*.—Coal possesses a superiority over every other kind of fuel. We extract gas from it with which to light our streets, &c. It speeds the steam-boat across the water, and sends the railway-engine puffing on the line.

X. *Quantity of Coal raised in the United Kingdom in 1856*.—66,645,450 tons of coal were raised in the United Kingdom in the year

1856, of which 5,879,779 tons were exported to foreign countries, chiefly to France.

XI. *History*.—Coal was first used in London in the reign of Edward I., when the smoke was supposed to corrupt the air so much that he forbade its use by royal proclamation, 1273. Coal was discovered in the neighbourhood of Newcastle, about 1300. First brought from Newcastle to London 1381.

XII. *Lessons*.—

- (a.) Not to despise anything from its appearance.
- (b.) Nothing valuable to be obtained without labour.
- (c.) God's providential care for us displayed by his abundant supply of such an excellent fuel.

PASTIME (First Year).

NOTES OF A LESSON ON THE SUN.

(Suitable for a Class of Children from Nine to Twelve Years old.)

I.—INTRODUCTION.

Draw from the class the name of the body which gives us light and heat, and excite their curiosity to know more of it by telling them, that beneath the brilliant covering which we are dazzled to look at, the sun is supposed to be like the earth, and to contain living beings, with immortal souls like ourselves.

II.—DESCRIPTION.

(a.) *Form and Dimensions*.—The sun is a sphere. When we view it through coloured glass, or when rising or setting, we have ocular demonstration of its circular form in one direction; but we must have recourse to reason to prove that it is not like a circular plate or a cylinder. On its surface are *spots*, which appear to move across its disc from east to west; and, when they first appear on the eastern side, they are small and indistinct; but as they approach the centre, they increase in size and distinctness; and, having passed the centre, on approaching the western margin they decrease in magnitude, and become more and more indistinct till they are lost to sight. (Illustration—A ship proceeding out to sea, and disappearing gradually, from the convex form of the earth intercepting the view.) This phenomenon could not happen if the sun were other than a globe, as the spots would continue of the same size at the sides as at the centre. (Illustration—A globe, with small pieces of paper irregularly stuck round the middle, and made to revolve.) The dimensions of the sun are—Diameter, 880,000 miles; circumference, 2,764,000 miles; superficies, 2,432,000,000,000 square miles; solid contents, upwards of 356,000,000,000,000,000 of cubical miles. (Illustration—It is 500 times greater than all the planets, &c., in the solar system put together. It is 1,350,000 times as large as the earth. If it be inhabited by beings whose height bears the same proportion to its size that 5 or 6 feet (the average height of men) does to the earth, their average stature must be about 156 miles! A person travelling 45 miles per day would be more than 160 years in circumscribing it. From Mount Etna upwards of 45,000 square miles of the earth's surface can be seen on a clear day.

Now, supposing that we could see the same-sized portion of the sun's surface wherever we went, and stood contemplating each landscape only one hour, and then passed to another of the same size without losing time in the passage, we should be upwards of 6,000 years in the contemplation of the whole surface.

(b.) *Physical Constitution of the Sun.*—The sun is not an immense body of fire, as the ancients believed, but a solid, opaque body, of about a quarter of the earth's density. It is surrounded by a luminous atmosphere, from which light and heat radiate to all parts of the solar system. Sir W. Herschel estimated this atmosphere to be from 1840 to 2760 miles in depth or thickness. In it numerous rifts or chasms (called spots, or maculæ), of different sizes and forms, may be discerned by telescopes, and sometimes even with the naked eyes. From observations on these spots it has been conclusively proved, that the sun is a sphere, and as an axial revolution.

(c.) *Motion.*—Though the "orb of day" does not move round the earth every 24 hours, as was formerly supposed, yet it *does* move. It revolves on its axis in 25 days 9 hours 56 minutes: and therefore any fixed point at its equator moves at the rate of 4,532 miles per hour.

(d.) *Distance from the Earth.*—It is about 95,000,000 of miles distant from our planet. (Illustrations—A cannon-ball, flying 500 miles an hour, would take upwards of $21\frac{1}{2}$ years to traverse this distance. A steam-engine, moving 480 miles a-day, would require 547 years. A ray travels over it in $8\frac{1}{2}$ minutes.)

III.—USES.

It gives light, heat, and colour to the earth, and all the other planets in our system; raises tides on the earth; keeps the planets in their orbits by the force of gravitation; supports vegetable and animal life in the earth and all other bodies in the solar system which are inhabited; forms clouds and produces wind, &c.; and is, in short, one of the most glorious and stupendous monuments of Divine power and unfathomable love in the universe. (These uses should be educed from the class by questions.)

APOLLO.

NOTES OF A LESSON ON CEYLON.

I. Position.

II. Physical Features—

- (a.) Extent.
- (b.) Surface.
- (c.) Soil and Climate.
- (d.) General Description.

III. Inhabitants—

- (a.) Population.
- (b.) Religion and Education.
- (c.) Towns.
- (d.) Government.

IV. History.

I. Ceylon is an island in the Indian Ocean, 60 miles from Hindostan.

II. (a.) It is 270 miles long, and 100 miles broad, containing 24,600 square miles.

(b.) It is rather mountainous in the S. and E., but flat in the N. and W. There are some heights above 8,000 feet, but the average elevation is 2,000 feet.

(c.) Its soil is exceedingly fertile. Coffee, spices, and all tropical fruits, flourish here. Its climate varies with the locality. In the mountainous

parts it is cool, and in the plains, hot, but everywhere the heat is modulated by the sea-breezes.

(d.) It is shaped like a pear, or a plover's egg; the S. end, which is broad, tapering to a point in the N. It is [one of the largest and richest islands in the world.

III. (a.) There are about 1,500,000 people in Ceylon, or 61 to a square mile.

(b.) The people are either Brahmins, Roman Catholics, or Bhuddists. Education is improving.

(c.) The chief towns are Colombo (the capital), Kandy, Trincomalee, Pont de Galle, Jaffna, and Kornegalle. (Let children tell their situations.)

(d.) It is governed by a governor and council, judges of circuit, local judges, collectors and writers, who are all Europeans. They are assisted by natives.

IV. The Portuguese expelled the Arabians 1505, but were themselves driven out by the Dutch 1656, who in turn submitted to the English 1796. In 1817 the king of Kandy was formally deposed by the English, from which time Ceylon has remained a part of the English empire. There have been several rebellions (the principal of which was in 1847), but they were speedily suppressed.

[Compiled from the *Imperial Gazetteer*, and *Gleig's History of the Colonies*.]

The above lesson was drawn up for a first or second class.

W. H. B.

NOTES OF A LESSON ON THE BASIN OF THE DANUBE.

I. *Source*.—The Danube originates in the springs of Berge of Baden, in Germany, at nearly 3,000 feet above the level of the sea.

II. *Extent*.—1,700 miles long; it is the second river in Europe, of which it drains one-thirteenth of its surface.

III. *Tributaries*.—On the right bank, Iller, Iser, Iun, Raab, Drave, Save, Morava, Isker; on the left bank, March, Waag, Thesis, Aluto, Serth, Pruth.

IV. *Basin*.—Its basin is between the Alps and Balkan on the south, and Carpathian and mountains of Central Germany on the north.

V. *Divisions*.—Three, viz. (1) Upper Danube, (2) Middle Danube, (3) Lower Danube.

VI. *Description of—*

(1.) *Upper Danube*.—This part of the river extends from its source to Vienna. It flows for the most part through a mountainous district, the fall being from 2,200 feet, at its source, to 500 feet at Vienna. Between Passau and Vienna, it is narrowed by the near approach of Bohmen Mountains, and a branch of the Norvic Alps; this, and the rapidity of the stream renders the navigation difficult.

(2.) *Middle Danube*.—It runs through the great plain of Austria, and often through swampy districts. At its great south bent it is narrowed by the approach of Carpathian Mountains and Backony Forest, but still more near Orsova, where it runs for 80 miles through a ravine formed by the Car-

pathian and a branch of the Balkan mountains. The extremity of this ravine is greatly narrowed by slate mountains on both sides, coming down to the edge of the water. This place is called the Iron Gate. This gorge is above a mile in length, and the stream, which is divided into three smaller ones by rocks, is extremely rapid, and rather shallow in some places.

(3.) *Lower Danube*.—The remainder of the Danube, which extends from Orsova to the Black Sea, flows through flat country, without many interruptions, and finally discharges its water by five mouths; which form a marshy delta, covered with bulrushes, into the Black Sea.

VII. *Towns of Importance on its Bank*.—(a) In Bavaria, Ulm—at which place the river begins to be navigable—Landau, Passau; (b) In Austria, Vienna, Buda, Pesth, Peterwardin, Orsova; (c) In Turkey, Belgrave, Viddu, Galatz, Ishmail.

VIII. *Miscellaneous Remarks*.—The Danube in its course flows, for the most part, through swampy districts, and consequently forms many islands. It is noted for its rapidity, winding course, and numerous islands. Since the war of 1854-6, the Russians have been compelled to abandon the mouths of the river, the navigation of which is now in the hands of the Turks, French, English, and Austrians.

GWYLYM JOAN TUDNO.

CRITICISM.

NOTES OF A LESSON ON THE LOBSTER.—(p. 236.)

In the spirit of mutual improvement, I beg to offer the following remarks on the above Lesson, and to submit my arrangement of it to the merciful consideration of the "profession."

1. On reading the 2nd heading—"Structure of the Lobster, and Class,"—one would be led to imagine that the writer was about to give an account of the internal organisation or anatomy of the lobster, and then educe the classification of it from the information thus given; but we find instead, that the "Structure of the Lobster, and of its Class," is what is to be understood by the heading.

2. That it "has the power of holding on," in my humble opinion, is not a fact to be classed under the head "Structure."

3. "Semi-vascular, and semi-lacunar," might profitably be dispensed with in elementary schools, as such technical terms, though indispensable in science, only burden the memory of children, to the exclusion of other and more useful information.

4. In the last sentence of paragraph II., Which is "oval," and which "long and slender,"—the crab or the lobster? It would puzzle any one, even the most accomplished logician, to answer this question from the information given in the sentence referred to.

5. Paragraph III. occupies too much space in proportion to the others and its own relative importance. It is besides rather disjointed and unintelligible, especially in the last sentence.

6. There is a contradiction in the Lesson. In I. it is said that the shells are formed of *circular plates*; in III., that they are composed of *rings*.

7. A very important division of all lessons on animals, &c., is wholly omitted in this one, viz., "*Uses*."

8. Paragraph V. might have been amplified with great advantage.

9. I consider that the slight saving of space, effected by the *jerking*, disjointed, method of composition pursued in this Lesson, is gained at the sacrifice of what is much more important—a good *style*.

The following is my arrangement of Lessons on Animals :—

I. Introduction.

II. Description :—(a) Form, and general appearance ; (b) Coverings ; (c) Internal Structure ; (d) Habits ; (e) Food ; (f) Method of Locomotion ; (g) Habitations ; (h) Offspring.

III. Uses :—(a) Alive ; (b) Dead.

IV. Lessons.

APOLLO.

TASMANIA IN 1860.

TASMANIA has, at the present moment, a population little short of 100,000.

There are bishops and clergy of the Anglican and Roman-Catholic Churches, ministers and congregations of the Presbyterian Free Church of Scotland, and every shade of Dissent.

Schools for all classes abound to a greater extent, in proportion to the size of the colony, than in any other part of the British possessions ; and the Legislature, with a liberality which reflects the highest credit upon them, have founded several scholarships of £200 a year, each tenable for four years at the universities of this country for youths educated in the colony.

The public institutions embrace, in addition to those of a commercial character, a Royal Society, whose transactions are published and exchanged with scientific associations in England, agricultural societies, public libraries, temperance associations, benevolent societies, hospitals, orphan schools, infant schools, ragged schools, city missions, colonial missionary societies, Bible societies, societies for the propagation of the Gospel, and mechanics' institutes, for one of which a hall, erected at a cost exceeding £6,000, has been recently opened.

A sum raised by private contributions to the same amount was some time since expended upon a proprietary grammar-school ; and upon the death of its first master, soon after his arrival in the colony, a sum of £800 was raised by private subscription for the benefit of his family.

The contributions from the colony to the various religious and missionary societies have been in excess of the contributions from other places relatively to their population. The public spirit and liberality of the people were attested in a remarkable manner during the Russian war, and a sum of £25,000 was contributed in aid of the Crimean Fund. Viewed with regard to its population, this was the largest amount contributed by any of our colonies.

In Tasmania, as in the other Australian communities, there exists free political institutions, and a system of representative and responsible government ; and the result of the deliberations of the Legislature has been the passing of various local acts, well adapted for improving the social and moral condition of the people.

Its commercial tariff is founded upon liberal principles, and affords a model which may be profitably imitated by the neighbouring colonies.—*Australian and New Zealand Gazette*.

Poetry.

THE TEACHER'S OFFICE.

To train each little child,
 And holy truths impart;
 With words and temper mild,
 To win the wayward heart.
 To elevate the mind,
 With loving tender care;
 To lead them to the Saviour kind,
 And plead for them in prayer.
 This is the Teacher's joy,—her care,
 To bring her flock to Christ in prayer.
 To check the sullen look,
 And innocence uphold;
 And from the Holy book,
 (More precious far than gold),
 Teach them the path to shun,
 The broad and downward road,
 Show them in which to run,
 And leave the rest with God.
 This is the Teacher's sacred call,
 And blessed she, who does it all.

ARTHENICE.

DISMISSAL HYMN.

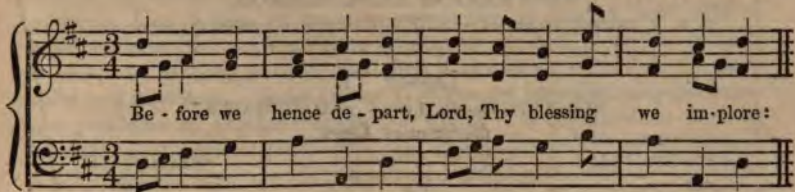
By EDWARD N. MARKS,

Writer and composer of Hymns in the "One Hundred Psalms and Hymns for
 Schools and Families" (Musical Bouquet), &c., &c.

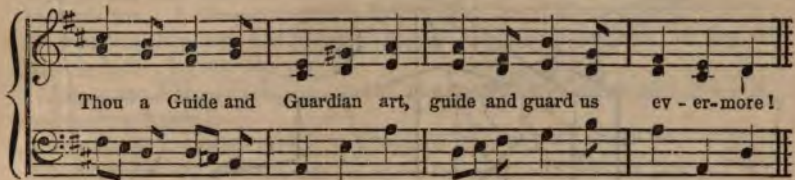
BEFORE we hence depart,
 Lord, Thy blessing we implore;
 Thou a Guide and Guardian art,
 Guide and guard us evermore!
 We praise Thee with one accord,
 Holy, Holy, Holy Lord!
 God of heav'n's eternal host,
 Father, Son, and Holy Ghost.
 Ever-blessed Trinity!
 Glorious God! We praise Thee!
 For the Redeemer's sake
 Pardon all the ill we've done;
 Help us good advice to take;
 Help us wicked ways to shun.
 We praise Thee, &c.
 O Lord our God most high!
 Hear, from heav'n, Thy dwelling place;
 All our earthly wants supply,
 Grant us each Thy saving grace.
 We praise Thee, &c.
 Hear, as each one commends,
 To Thy goodness day by day,
 Parents, pastors, teachers, friends,
 All for whom we ought to pray.
 We praise Thee, &c.

DISMISSAL.

EDWARD N. MARKS.

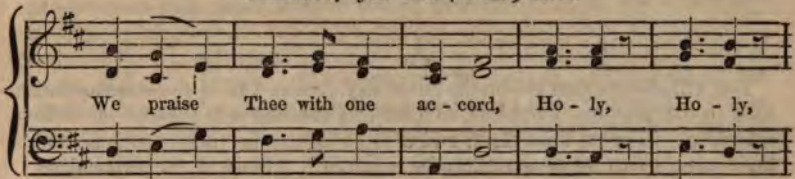


Be - fore we hence de - part, Lord, Thy blessing we im - plore:

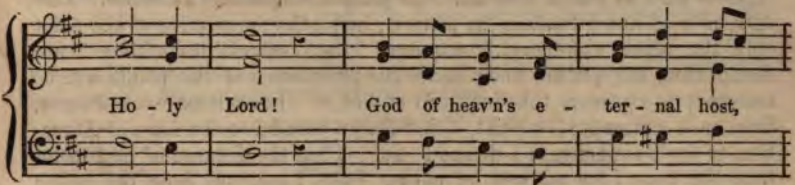


Thou a Guide and Guardian art, guide and guard us ev - er - more!

Doxology, after each (or last) verse.



We praise Thee with one ac - cord, Ho - ly, Ho - ly,



Ho - ly Lord! God of heav'n's e - ter - nal host,



Father, Son, and Ho - ly Ghost. Ev - er blessed Tri - ni - ty!



Glo - ri - ous God! We praise Thee!

PERSPECTIVE SIMPLIFIED.

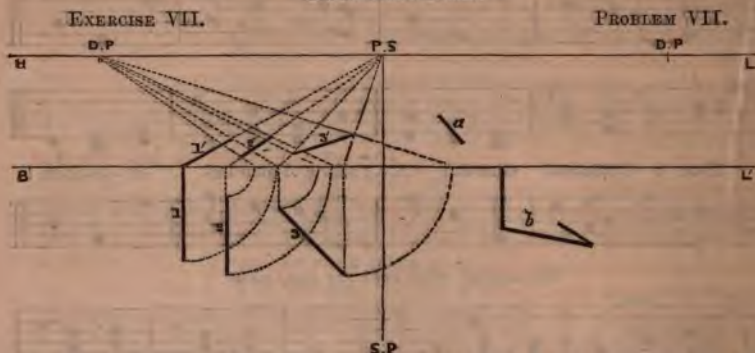
FOR PUPIL-TEACHERS AND OTHERS PREPARING FOR THE
GOVERNMENT EXAMINATIONS.

BY R. H. TURNER, HEAD MASTER OF THE CRANMER SCHOOLS, LIVERPOOL.

LESSON VI.

PERSPECTIVE OF LINES AND SURFACES.

Horizontal Lines.



You will observe that the method used in Exercise VII. is the same as that used in the previous exercises, so that this exercise will present but little difficulty. Suppose lines 1, 2, and 3 to be given in these positions, and their perspective representations be required. Think of the extremities of these lines as points, and find their perspective position as before. One extremity of line 1 touches the picture; hence the perspective of one point only, the other extremity, is required. Both extremities of line 2 are distant from the picture line; hence the perspective of two points will be necessary to represent this line. So of line 3. In each case you observe, from each extremity, or point, a line drawn parallel to the Line of Direction, to the Base Line, and thence to *rs*. Then the distance of each point from the Base Line marked off on the Base Line, and from the points thus found, lines drawn to *dp*. The points of intersection give the perspective position of the extremities of the lines, which, when joined, give the perspective of the lines, namely, lines 1', 2', and 3'.

Suppose the perspective lines 1', 2', and 3' were given, and their position on the original plane required, the reverse of the above operation would be all that was needed. First, lines from *rs*, through each extremity, to the Base Line; then lines parallel to the Line of Direction on the original plane; then lines from *vp* to *bl'*; and lastly, the length of line on *bl'*, between the extremities of the *two lines of construction* for each point, marked off with the compasses, on the parallel lines. The points having been thus found, join them, and the plans of the perspectives are found.

Lines 1 and 2 are at right angles to the Base Line, and parallel to the Line of Direction. All lines at right angles to, or parallel to, the Base Line, are said to be in *parallel perspective*.

Line 3 is in an angular position to the Base Line. Lines so situated are said to be in *angular perspective*. The method used in Exercise VII. is the same for all the lines. This method is called the *method of parallel perspective*. The *method of angular perspective* is similar, and will be explained hereafter. All problems in angular perspective may be worked by means of parallel perspective. Hence the latter method is the more useful and important. Some of the Government examination papers contain problems in angular perspective, which it is impossible to work by the method of angular perspective, the size of the paper not permitting. If the method of applying the practice of parallel perspective to a problem in angular perspective be not known, *failure* will be the result in such an examination. I have seen such a failure, and heard afterwards how carefully the unlucky one had prepared himself, and how confident he was of success before he saw the paper.

PROBLEM VII.—Find the plan of the perspective line *a*, and put into perspective figure *b*.

Again, let me urge you to make good use of your pencil and paper. Before proceeding to work out the problems, copy the exercises, and work them for yourself, and do this in as many ways as you can. For instance, put down on your paper lines in similar positions to 1, 2, and 3, and find their perspective, then take lines similarly placed to lines 1', 2', and 3', and find their position on the original plane. Then suppose 1', 2, and 3' given, find their length. The height of the eye, or, in other words, the distance from BL' to HL, you will remember, we have reckoned at 5 feet. Having laid down on your paper the Base and Horizontal Lines, the distance between them will form your standard of measurement or scale. Again, suppose 1', 2', and 3' be given, let it be required to find the distance of their nearest points from the Base Line and from each other. By exercising yourself in this way, and in any other way of which you can think, you will become familiar with the different methods of operation, and simplify for yourself more difficult figures.

Correspondence.

INSTRUCTION *versus* EXAMINATION.

To the Editor of the Pupil-Teacher.

SIR,—The method of teaching all subjects connected with School Education has been so frequently and fully treated upon by the best educationalists of the day, that to speak of the "Method of Teaching" any of these subjects would, I fear, expose me to a charge of plagiarism, a distinction I am by no means anxious to obtain.

Setting aside the method of teaching, a few remarks on the Manner of Conducting Lessons generally, or Instruction, *versus* Examination, may not be out of place. And first, be it observed, that the lessons given in a school are of a twofold character. They are either instructional or examinatory. The object of every separate lesson is either to "teach" something (directly) to the children, or "test" them in something already taught.

A lesson may, and often should, contain both these elements. But the examination is to follow, not, as is often the case, to precede or supply the place of the instruction. As of course the greater part of the "school time" is given to instruction properly so called, this will call for a few remarks. In the first place,

many are apt to forget the fact stated above, viz., that the greater part of the time in a school is given, or at least ought to be given, to "Instruction."

If this fact is recollected, many would seem to have a very poor idea of carrying it out. This, however, is hardly possible when every one may learn the best method of teaching with very little trouble, and scarcely any expense. Supposing the error to proceed rather from forgetfulness than anything else; a few instances are given in which this forgetfulness is shown.

And first, in the "Reading Lesson."

What is more common in any of our Day-schools than to hear a Teacher, who professes to give a "reading lesson," proceed somewhat in the following manner: The page is given out, and as soon as found, the first child begins reading. When the sentence is finished, the "next" goes on, and so on to the end of the chapter. A LITERAL mistake may be corrected, but that is all. Nothing is noticed as regards the tone and pace of the reading. If the words composing the sentence be known, it is passed off as good, because the "words" are said easily and without any blunders. No obscure passages are analysed and set before the children in intelligible language. No illustration is given, or allusions made to corresponding events, actions, or language. Now a lesson conducted in this manner—and it is to be feared in many schools the lessons are continually carried on in this way—is no lesson in the Art of Reading. It is entirely an examination, and would be very proper at the end of the week—with attention to intonation and emphasis upon some lesson read during the week. The reading lesson is taken more especially as an example of the *examinatory versus* instructional method, because during the present year, as indeed in years past, Her Majesty's Inspectors are continually reporting on the defective state of the reading in our elementary schools. This is, of course, attributable in great measure to the method pursued in teaching this all-important subject. On the above plan you will never secure good reading. It has been said that it is "impossible" to "READ" unless the pupil understands what he is reading about. This may be very true; at the same time Teachers must not too closely follow the doctrines of Wood, or they will have the reading subordinate to the explanation, instead of *vice versa*. It is the *manner* of reading which is the desideratum. This is of much more importance than teaching geography or history in connection with the reading lesson, though this may be all very well in its way. Lessons should, therefore, be set apart to cultivate solely the manner of reading, such lessons to consist of easy narratives, or dialogues, when possible.

The next great feature in school instruction is Gallery Lessons. To these the same remarks apply as to the Reading Lessons. In many cases, the instructional, or what *should* be the instructional, portion of lesson is taken up with examination, alike improper and unnecessary. Admitting that children should never be TOLD that which they know, or can find out for themselves, it is not intended that this remark should extend to, as is often the case in Gallery Lessons, a succession of questions at the commencement of the lesson which, if the pupils were able to answer at all, would completely dispense with the necessity of the lesson. From what should be the instructional, in which in many cases too much of the *examinatory* exists, we come to the *examinatory* branch in teaching. If an examination be rightly conducted it will be useful to the children, both in showing them where they have failed and also in strengthening what they have retained. The examination must be purely *examinatory*. Just as instruction should be distinct from examination, so examination must be separate from instruction. This is an error I think one is liable to run into the former. In conclusion, I would just observe that ten minutes' examination of a class will test a Teacher's abilities as much as a thirty minutes' lesson.

The above remarks, in which I believe many Teachers will concur, are penned with the view of pointing out a general defect, in the hope that all will—wherever they find this defect—strive hard for its remedy, and thus raise the character of our elementary education.

Should you deem these remarks worthy a place in your "valuable publication," you will by inserting them oblige

Your obedient Servant,

ROBERT STRATTON.

Newcastle-upon-Tyne, 1860.

Notes and Queries.

•• We wish it to be distinctly understood that we do not guarantee that all the *notes, replies, &c.*, are correct. Criticisms on lessons, parsing, &c., are requested. The Subscribers to the "Pupil-Teacher" should consider themselves as members of a Mutual Improvement Society, and regard our periodical as their medium of intercommunication.

Our Notes and Queries are of three classes:—

I.—Mathematical.

II.—Philological, including Grammar, Paraphrasing, Composition, &c.

III.—Miscellaneous, including all questions on subjects of Study or Method. Questions of Discipline or Management, affecting Pupil-teachers, are discussed in the EDITOR'S COUNCIL.

In sending Answers, merely refer to the number and page thus:—"Mathem. No. —, p. —;" "*Philol.* No. —, p. —;" "*Miscell.* No. —, p. —."

N.B.—The number refers to the *query*, not to the "Pupil-Teacher."

MATHEMATICAL QUERIES.

42. (WELSH MOUNTAINEER).—A person spends 2s. 6d. in apples and pears, buying the apples at four, and the pears at five a penny; and afterwards accommodates a neighbour with half his apples and a third of his pears for 13d. How many of each did he buy?

43. (W. G. W.).—Inscribe the greatest parallelopipedary in a given ellipsoid. Supposing the dimensions of the former to be $2x$, $2y$, and $2z$, then the equation to the latter is $\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1$.

This question may be seen in Haddon's "Examples," page 78 (J. Weale), but it is here proposed to be done by algebra.

44. (UNUS).—A rectangular cistern, of which the length is $13\frac{1}{2}$ ft., and the breadth 6 ft., contains $294\frac{1}{2}$ cubic feet of water. What is the depth of the cistern, and what is the weight of water when one cubic inch weighs 252.5 grains?—*Colenso's Arithmetic*.

45. (GOMER).—A met two beggars B and C, and having a certain sum in his pocket, gave $\frac{3}{8}$ of it to B, and $\frac{2}{3}$ of the remainder to C: A had now 20d left. What had he at first?

46. (TAILBACH).—Find the value of x in the following equation

$$\sqrt{x} - \frac{8}{x} = \frac{7}{\sqrt{x} - 2}.$$

(N.B. This equation to be worked as a quadratic, and not by *trial*).

PHILOLOGICAL.

17.—PARAPHRASE.

"He who hath bent him o'er the dead,
Ere the first day of death has fled,
The first dark day of nothingness,
The last of danger and distress
(Before Decay's effacing fingers
Had swept the lines where Beauty lingers),
And marked the mild angelic air,
The rapture of repose that's there;
The fixed yet tender traits that streak
The languor of the placid cheek:

He, but for that sad shrouded eye,
That fires not, wins not, weeps not now,—
And but for that chill, changeless brow,
Whose touch thrills with mortality,
And curdles to the gazer's heart,
As if to him it could impart
The doom he dreads yet dwells upon:
Yes, but for these, and these alone,
Some moments—aye, one treacherous hour—
He still might doubt the tyrant's power,
So fair, so calm, so softly sealed,
The first—last look—by death revealed."

IDA MAY.

18.—Paraphrase the following, and Parse the words in italics.

Brutes *graze the mountain-top*, with faces prone,
And eyes intent upon the scanty herb
It *yields them*; or, *recumbent* on its brow,
Ruminate heedless of the scene *outspread*
Beneath, beyond, and stretching far away
From inland regions to the distant main.
Man views it, and admires; but rests content
With *what* he views. The landscape *has his praise*,
But not its *Author*. *Unconcern'd* who *form'd*
The *paradise* he *sees*, he finds it *such*,
And, *such well pleased* to find it, asks *no more*.
Not so the *mind* that has *been touched* from Heaven,
And in the school of sacred wisdom *taught*
To read his wonders, in whose thought the world,
Fair as it is, existed ere it was.

JANE WHARTON.

MATHEMATICS: SOLUTIONS.

36. (p. 210)—β.

$$\begin{aligned} & \frac{a^3 + x^3}{a^2 + 2ax + x^2} \\ &= (a + x) (a^2 - ax + x^2) \\ & \qquad \qquad \qquad (a + x)^2 \\ \therefore \text{C. F.} &= (a + x) \\ \therefore \text{G. C. M.} &= (a + x) \end{aligned}$$

N. SANDERSON.

Sedis; S. E.; Alpha; J. W.; Urban; J. N. Hobbs; and others.

37. (p. 210).

$$\begin{aligned} \text{Gain per cent. by selling out} &= 94\frac{1}{2} - 89\frac{7}{8} = 5\frac{1}{8} \\ \text{" " by } \frac{1}{2} \text{ year's dividend} &= 1\frac{1}{2} \\ \text{Total gain per cent.} &= 6\frac{3}{4} \\ \therefore \text{No. of cents purchased} &= 54 \div 6\frac{3}{4} = 8 \\ \text{And sum laid out} &= 89\frac{7}{8} \times = £715. \end{aligned}$$

AARON SMITH.

Oxoniensis; Urban; Trigon; N. Sanderson; R. Stratton; Sedis; Campbelltown; T. T. and D. J., Abergwilli; John Sinclair; Pharamond; Robin Hood; B. Etips; J. N. Hobbs; Iva; Henry Tassel; Bretwalda; J. W. Mills; and others. [Mr. Mills appends a P.S.—“P.S. This is my own solution of this question, but I am somewhat indebted to the work of Robert Rawson, Esq. (Head Master of the Portsmouth Dockyard School), on Arithmetic, in which I saw this problem solved. I wish it to be borne in mind that I have not copied from Mr. Rawson's work. I have said this because of the letters I saw some time since in the ‘Pupil Teacher’ upon Plagiarism.”—We insert this because it contains information, and what is perhaps equally serviceable—a hint.—Ed. P. T.]

36. (p. 210)—a.

$$a^3 + x^3 = (a + x) \cdot (a^2 - ax + x^2) \\ a^3 + 2ax + x^3 = (a + x) \cdot (a + x) \therefore \text{GCM} = a + x.$$

$$= \\ a^3 + 2ax + x^3 \quad a^3 \dots\dots\dots + x^3 \quad (a - 2x \\ a^3 + 2a^2x + ax^2$$

$$\begin{array}{r} - 2a^2x - ax^2 + x^3 \\ - 2a^2x - 4ax^2 - 2x^3 \end{array}$$

Dividing by $3x^2$

$$x^2 3 \quad 3ax^2 + 3x^3$$

$$\begin{array}{r} a + x \quad a^2 + 2ax + x^2 \quad (a + x \\ a^2 + ax \end{array}$$

 \therefore G C measure = $a + x$

$$\begin{array}{r} ax + x^2 \\ ax + x, \end{array}$$

J. W. MILLS.

William Shaw; Welsh Mountaineer; Campeltown; J. Jarrett; Bretwalda; John Hellen; Oxoniensis; Robin Hood; Trigon; R. Stratton; J. H.; D. Moon; Henry Tassell; T. T. and D. J., Abergwilli; A. Johnson; and others.

PHILOLOGICAL: PARSING, &c.

11. (p. 160.)—PARAPHRASING.

a. If there be an individual in existence so entirely devoid of feeling and patriotism, as never to have experienced a thrill of joy and exultation at the greatness of, or on the prospect of revisiting,—after weary absence in far-off climes,—the land of his birth, go, observe him ever so minutely, you will find no lyrist employed in celebrating his praises, and that,—however high-born, powerful, or wealthy, intent only on his own personal aggrandizement, and with no spark of sympathy in his nature,—as he lives unhonoured, so will he die unlamented, and his very name soon be remembered no more.

AARON SMITH.

B. Is it possible that a man can exist with a mind so narrowed and a heart such a stranger to emotion that he hath never in the fulness of one, or the pride of the other, exclaimed, "This is my own, my native land?" Can it be, that after a pilgrimage in a strange country no swelling emotions fill his breast on his return to enjoy once more the sweets and delights of home? Observe such a man carefully whenever you meet with him. You will find him unmoved by the soul-stirring strains of the minstrel's lyre. Though he possess untold wealth, be adorned with lofty titles, or claim his descent from a noble line, yet, despite these, the wretch through his coldness and selfishness will fail to obtain any one's praise or goodwill. Thus, while still alive, he is dead to his fellow-men. When Death crumbles his body in the bare dust from which it was taken, no mourner's tear will be shed to his memory. No minstrel will be heard proclaiming in tuneful strains the honours belonging to his name, but as he lived, cared for by few, so he will die, regretted by none.

ROBERT STRATTON.

The following are meritorious:—Cicero, Urban, Annie (Margate), Troisième, Tnatsnoc, Apollo, J. T. Ridley, F. Brough, Dudley Dumps, J. Vincent, Meta, Beautiful England, William Young, James Hepple.

11. (p. 160.)—PARSING.

(Arranged from the best eight papers.)

1. F. Brough; 2. R. Stratton; 3. A. Smith; 4. J. Vincent; 5. Tnatsnoc; 6. Meta; 7. Urban; 8. Beautiful England.

Breathes there, v. neu. ind. pres. indef. 3rd sing. agr. with *man*, 1, 7, 8.

Breathes, v. reg. neu. 2; intr. 3, 4, 5; act. 6; ind. pres. 3rd sing. *; attrib. to *man*, 2; agr. with *man*, 3, 6; pred. to *man*, 4; agr. with its nom. *that* (unders. — the sent. = "Is there a man that breathes")

There, adv. used as an adj. forming part of pred. *breathes*, 2.

„ mod. *breathes*, 3, 4.

„ demon. mod. *is* unders. 5.

„ expletive, 6.

Home, n. com. sing. n. gen. *; obj. by *towards* unders. 1, 2, 6, 8; by *to* unders. 3; to *hath* turned, 4, 5.

Hath, v. aux. of tense marking pres. compl. 1, 8; aux. to form infin. irr. neu. 2; trans. 3; aux. 4, 5, 7, 8; ind. 2, 3, 5; *past*, 2; *present*, 3, 5.

Such, ind. adj. pro. 1; adj. 2, 4, 5, 6, 8; adj. or pron. 3; 3rd, mas. pl. 1; nom. 1, 3, to *breathe*.

High, adj. qual. *title*, *

Proud, „ name, *

Boundless, „ *wealth*, *

As, adv. of degr. qual. *boundless*, 1; — of comp. and used conjunctively, 2; *Conf.* 3, 5, 8; correl. to *so* unders. in prec. sent. 4.

Wish, n. com. 1, 2, 3, 5, 6, 8; abstr. 4, 7; sing. n. gen. nom. *

Those, dem. adj. pro. 1, 7, 8; dem. adj. 2, 3, 6; pronoun adj. 4; dem. pro. 5; n. gen. 3rd. plu. obj. by *despite*, 1, 7; adj. qual. *titles*, 2, 3, 4, 5, 6.

Pelf, n. com. 3rd. sing. n. gen. *; obj. by *despite*, 1, 3, 5, 8; 3 makes *despite* a prep.

All, indef. adj. pro. 1, 7; adj. as adv. 2; adv. 3, 4; pronom. adj. or adv. 5; indef. adj. 6; indef. pron. 8; adv. mod. *concentred*, 2, 3, 4, 5; pro. nom. absol. 1, 7; pronom. adj. gov. *things* unders. 5; indef. adj. qual. some n. unders. 6.

Living, pres. incomp. part. 1; particip. adj. 2; pres. pt. 3, 4, 5, 8; imp. pt. 6; or adj. descr. *wretch*, 5.

Doubly, adv. mod. *dying*, *

Dying (as *living*). *Doubly dying*, adv. phr. attri. to *go*, 2

Down, adv. mod. *go*, *

Whence, adv. of pl. qual. *sprung*, 1, 4, 5, 6; comp. adv. = *wh. pl.* 2, who parses *which* and *place* separately; rel. pron. = *which*, 3rd. sing. obj. by *from*, 3; rel. pron. having *dust* for its ant. 8.

The eight next best papers, in order of merit, are Cicero, Annie (Margate), William Young, E. J. Paul, James Kepple, T. Ridley, Troisième, Dudley Dumps.

MISCELLANEOUS: ANSWERS, &c.

12. (pp. 184, 188, 217).—I scarcely know how to reply to "Pharamond," as a considerable part of what he has advanced I cordially endorse as truth, and he has not even attempted to invalidate my Answer (page 188). But as he intimates that I do not "clearly understand the Doctor's argument," I would refer him to a work entitled "The Christian Philosopher triumphing over death," (Snow, Paternoster Row,) where he will find, on page 100, the following remarks by the Doctor, when discoursing with a friend:—

"I can prove that a locomotive engine does not move, and I defy you to disprove my argument." To which his friend replied, "Well, but something moves." "It is a delusion," said the Doctor. "It is not a reality. May you not be deceived? A body only occupies space equal to itself. It cannot hold two spaces at one and the same time. It cannot move where it is, and it cannot move where it is not. It is stationary where it is, and cannot move where it is not; therefore it does not move at all."

"Pharamond" may, if he please, call such remarks "nothing but observations," and treat them as "self-evident," but I term them *positive assertions*, and it is not likely I shall ever possess such an "intelligent mind" as to perceive they are anything else.

Let y be the velocity of a body in motion, s the space passed over uniformly in the time t , then $v = \frac{s}{t}$. Now let p represent any portion of the space s and q , the time occupied in passing over it; then $\frac{s}{t} = \frac{p}{q}$, since p is any part of s ; sup-

pose it the infinite part, then $p = o$, hence $q = o$, otherwise the above equation would not hold good. Therefore $\frac{s}{t} = \frac{o}{o}$, and consequently $v = \frac{o}{o}$. Therefore, as the velocity is sustained when both the space and time vanish, the body is *never* stationary in the space s .

It seems that the Doctor must have supposed that a body (in motion) occupies the *same* space for a *definite* period, which, if so, it *would* be stationary; but this is invalidated by the above reasoning.

In regard to "Blenheim's" remarks, I beg to inform him that I *nowhere* say "that 'the locomotive occupies the same period for a *certain time*," or "*that time is no time at all*."

I did indeed say, that a time *infinitesimally* small is *no time at all*; but if "Blenheim" think otherwise, he would oblige by informing one how much it is.

In conclusion I would beg to state, that I did not propose the query (p. 134) to detract in any way from the high merits of the late Dr. Gordon. The work above referred to is a memoir of that gentleman. It is, on the whole, both well-written and very interesting, and worth the perusal of any one.

W. G. W.

(γ).—A body only occupies a space equal to itself is certainly true; that it cannot hold two spaces at one and the same time is also true, for it would be quite impossible for an engine to occupy a place at Waterloo Station and one at Salisbury at the same time. That it cannot move where it is, is true, and that it cannot move where it is not, is also true; but it does not follow because of these facts that it cannot move from where it is to where it is not, and in this lies the whole reasoning, namely, that it becomes a transition body, and *so passes* from one place to another.

LUCILLA.

Recreative Exercises.

XV.—(p. 219).—

Through pale Afric's southern region, where the fierce hyenas creep,
Silently its course pursuing, flows the meandering *Gareep*;
Loudly rose the cry of triumph, as the Swedish legions saw
Rising through the morning sunbeams, dark the heights of *Ilmenau*;
And of *Barnet's* strife so bloody, long the historic page shall tell,
How the White Rose fought and conquered!—how the valiant Warwick fell;
Where, its silent journey ended, empts the famed Bendemir stream,
There, 'neath Persia's sunny heavens, Lake *Baktegan's* waters gleam;
Far amid the vast Pacific, 'mid its thousand islets gay,
Otaheite, or fair Tahiti, blooms beneath the sun's bright ray;
Proud for *Normandy* the morning, when arose Harlotta's* son,
Swiftly crossed the English Channel, and the crown of England won.

These words well placed, the initials traced, the historian *Gibbon* see;
The finals read, and *Putney* will the historian's birthplace be.

THOMAS DENHAM.

XIX.—The *initials* will give the name of a large city of Europe, built on oaken piles; and the *finals* the name of one of the greatest philosophers of ancient times, instructor of Alexander the Great.

A river of Siberia, rising in the Yablonoi mountains.

A large town in the N. of England, known as the "metropolis of King Cotton."

A medicinal substance, found in whales.

One of the northern constellations in the Zodiac, containing 109 stars.

A German historian who lived at the court of Charlemagne.

An Italian musician, a favourite of Mary, Queen of Scots.

An ancient town in the North of Europe, where the synod was held that denounced the doctrines of Arminius.

* Or Arletta.

A mountainous canton in Switzerland, holding the 13th place in the Swiss Confederacy.

The goddess of Memory in the heathen mythology.

APOLLO.

XX.—The *initials* read downwards will give the name of a man who, as he himself said, had dined with men in all stations of life; and the *finals* read upwards will give the name of one of England's largest manufacturing towns.

1. One of the books which originated the periodical works called magazines.

2. A range of hills between the Clyde and the Douglass.

3. The granary of the ancient Roman Empire.

4. The city which contains the largest library in the world.

5. A king who died from intemperance at a marriage feast.

6. The monarch during whose reign decimal arithmetic was introduced into England.

7. A range of Alps in Austria.

8. A town, now in ruins, once a residence of the kings of Persia.

9. A river flowing into the St. Lawrence.

10. A cape in North America.

JAMES HEPPLE.

ANSWERS.

XV.—(p. 219).—GareeP—IglaU—BarneT—BakhtegauN—OtaheitE—
Normandy Gibbon. Putney. ESSAYEZ.

Also: Charles Ashen, H. Foot, Benedict, Apollo, Abram Sturrock, J. Fenton, E. Cryer, A. A. Stuart, Biceps, Lizzie, E. S. M., Jane M., Rose F.

XVI.—(p. 219).—PenanG—Urbino—Portobello—Ireland*—LowestoftT—
TapteE—ErzerouM—AntwerP—Cambridge—HedjaR—ErieE—Ras-al-haD.

Pupil-Teacher. Good Tempered.

W. H. B., and J. C. CONISTON.

Also: T. E. Jones, Sapere Aude, Blenheim, Violet, Alphonso, Trout-Fisher, James Hepple, H. H. Jones, Black Robin, Abram Sturrock, Apollo, E. Cryer, W. J. Harrison, Benedict, Henry Foot, E. S. M., James Fenton.

Editor's Exercises.

BIOGRAPHY.

3.—(Page 128).—SIR WALTER RALEIGH.

SIR WALTER RALEIGH was born A.D. 1552, in the parish of East Budleigh,† 14 miles from Exeter. His early days were spent in study. He became very proficient in learning, as his works afterwards proved. He published many treatises, as well as some poetry of value, but his great work was the History of the World, of which the plan, the sentiments, were his own, though the materials were supplied by his friends. He was one of a regiment of young gentlemen whom Henry Champernon was permitted to enrol in London, and to carry with him to the Continent about the year 1570. He fought, though not under English colours, by the side of Coligni and Conde, and other leaders of the Huguenots, against the Catholics, who formed a league at Bayonne, in 1566, for the extermination of the Protestants. He ably distinguished himself against the enemies of Queen Elizabeth, and was one of those brave and skilful navigators who laid the foundation of that high character which has ever since attached to the English nation. He

* All the other correspondents give Iceland.

† "In East Budleigh church an oaken pew is pointed out which was occupied by the Raleigh family. The exterior of it is embellished by ancient carved work, among which are the arms of Wymond Raleigh, grandfather of Sir Walter, quar- tering those of Jane, his wife, daughter of Sir Thomas Grenville, Knight. On an adjoining panel is the date 1534."

displayed a degree of enterprise and talent which had never been surpassed, and struck dismay into the hearts of the enemy wherever their flags were unfurled, as well in the old world as in the new. He was the inveterate enemy of the Earl of Essex, who acted such a prominent part in the reign of Queen Elizabeth.

Tobacco was brought into England from Virginia* by some of the adventurers sent out under the auspices of Sir Walter Raleigh in 1585.

Potatoes were introduced into Ireland in 1610, a small quantity being sent by Sir Walter to be planted in a garden on his estate in the vicinity of Youghal.

In the first year of the reign of James I. he entered into a conspiracy called the Main Plot, his object being the overthrow of his political enemies by the aid of Spain. But his opponents also set up a charge that he intended to put forward the claims of Arabella Stuart, in opposition to those of James. The result was, he was indicted, "for an attempt to excite sedition in the kingdom, to induce foreign enemies to invade it, and to deprive the king of his government." He was, moreover, accused of having published a book, impeaching the king's title, and of intending to raise the Lady Arabella Stuart to the throne. The overt acts which were alleged against him altogether depended on the written and verbal depositions of Lord Cobham, which were inconsistent and contradictory, and of which a letter-writer of the time says, they were no more to be weighed than the barking of a dog. His trial was conducted with scandalous unfairness by the Attorney-General, Sir Edward Coke, who characterized the prisoner as "a damnable atheist," "a most notorious traitor," and "a spider of hell," but Raleigh himself displayed great ability and equanimity in his defence. He was, however, found guilty, and sentenced to death. While he was in the Tower he devoted the powers of his active mind to the composition of a work, which has given him a high rank amongst the English authors of his age, viz., the History of the World, before referred to. Through the interposition of Villiers he was released from the Tower in March, 1616, and he obtained the king's reluctant consent to undertake an expedition to Guiana, which he had visited in Elizabeth's reign, and of which he had taken formal possession in the name of that sovereign. The object of the voyage was to seek out a gold mine which was said to exist there, and which might furnish a supply to meet James's pressing necessities. The king, however, revealed the project to Gondomar, the ambassador of Spain, which country had formed a settlement there since Raleigh's voyage, and the Court at Madrid gave instructions to the Governor to resist his proceedings. Raleigh set sail in March, 1617, with a squadron of 11 armed vessels, and after an unpropitious voyage, he reached the coast of Guiana in the following November. Captain Keymis was ordered to sail up the Orinoco and land at St. Thomas, in the neighbourhood of the supposed mine. He was directed by Raleigh not to attack the Spaniards unless the latter commenced hostilities. The English were assailed at night, and though they gained a victory over their foes, and captured the town, their strength was so diminished, that an advance into the country was deemed impracticable. The ill success of this enterprise led to insubordination in the fleet, and Raleigh had no alternative but to sail homewards. On his arrival he was arrested, and remitted to custody; and James, who was at this time most anxious to marry his son to the Infanta of Spain, resolved to conciliate that Court, which had evinced great displeasure at Raleigh's conduct, by sacrificing his veteran commander to their resentment. The Crown lawyers were well aware that his attack on St. Thomas was capable of a conclusive defence, and it was, therefore, resolved to execute him on his old sentence, which, though not formally reversed, had been practically annulled by his appointment to a command which conferred upon him the power of life and death over his officers and soldiers. He was accordingly executed, October 29, 1618.

[The information is derived chiefly from the histories of Curtiss, Gleig, and Ince.]

JOSEPH SCOTT.

The following papers merit special notice:—One-and-All; Jean C.; Lowick T. L. Simpson; Lucilla; T. S. Wilkinson, J. Petrie; F. Jones; George B. G. Smith.

* The first English Colony in North America, which was established by Sir Walter Raleigh, A.D. 1584, and termed, in honour of the Queen (Elizabeth), Virginia.

Notices of Books.

Hand-book of the History of the English Language. For the Use of Schools and Colleges. By A. H. KEANE, Licentiate in Philosophy and Letters, U.C.H. London: Longman & Co. 1860.

Mr. Keane's little book cannot fail to instruct those who wish to attain to thorough knowledge of the English language. It is a *resumé* of half-a-score of the best writers on the subject, and the author has brought to bear upon it sound learning and clear judgment of his own.

Physiology for Common Schools, in Twenty-seven Easy Lessons. By Mr. CHARLES BRAY. London: Longman & Co. 1860.

Physiology is sadly neglected in our *common schools*, and in our superior schools too. But it is perhaps of superior importance in our common schools. The result of ignorance of the laws of health is, amongst the masses, truly appalling. Model dwelling-houses, a good supply of pure water, an efficient system of drainage, and other means of promoting the sanitary well-being of the poor, will prove, comparatively speaking, futile, until the poor are convinced that it is in their own power to avert much of the evil to which they are now peculiarly subject. We must not trust too much to the vague assertion that "Education" will remedy the defect to which we advert. Experience proves that works on the subject of which Mr. Bray's book treats are not those sought after or cared for by the reading portion of the working classes. Children—especially the senior classes—should be taught physiology as they are taught geography. Mr. Bray shows that it can be made quite as interesting, and we venture to assert that it will prove quite as useful.

The Great Events of History. By W. F. COLLIER, B.A., Trinity College, Dublin. London, Edinburgh, and New York: T. Nelson and Sons. 12mo., cloth. Price 2s. 6d.

There is one characteristic of the school-books published by Messrs. Nelson and Sons, with which most of our readers are well acquainted—we refer to their *cheapness*. The present work is no exception to the rule. If, as the grocers tell us, "quality is the test of cheapness," Mr. Collier's *GREAT EVENTS* would be justly entitled to be called a cheap book, how much more so then when it is also *low priced*! It is a work which we can confidently recommend to Pupil-teachers. We are always glad to be able to point out to Pupil-teachers well-written works which contain a large amount of information in few words. Literary condensation is not so easy a task as is often imagined. Too many who undertake to summarize, present us with bald and incomplete *tables disguised*. We could mention several school-books on history which might have almost every page put in a tabular form, and they would be more readable and perhaps more useful than they are at present. Mr. Collier's style is perspicuous as well as concise. Those who like his *British History* will be equally pleased with his *Great Events of History*.

Old Jonathan; or, the District and Parish Helper. An Illustrated Penny Broad-sheet, published on the 15th of every month. London: W. H. Collingridge, 117 to 119, Aldersgate Street, E.C.

We are glad to see that this illustrated penny broadsheet is becoming more and more attractive, and increasing in popularity as well as usefulness.

THE FIRST RAILWAY IN SOUTH AFRICA.—The Natal correspondent of the *Cape and Natal News* writes:—"The great event of the past month has been the official opening of our little railway, which has now become a matter of history. True, it is only a single line, and no more than two miles in length, namely, from the 'Point' landing-jetty, near the Custom-house, on the margin of the bay, to the centre of the town of Durban, near St. Paul's church. That event took place on Tuesday, the 26th of June."

Notes to Correspondents.

All Communications for the Editor should be addressed "The Editor of the Pupil-Teacher, 54, Paternoster Row, London, E.C."

METHOD OF ASKING OR ANSWERING QUESTIONS.—Our numerous correspondents would save us an immense amount of labour, and be less liable to disappointment from their communications not being promptly attended to, by attention to the following points:—

1. Write *only on one side* of the paper.
2. Keep each subject distinct from others.
3. *Head* each subject thus:—"Editor's Council," "Notes and Queries," "Editor's Questions," &c. &c.
4. Leave a space at the top and at the bottom of the paper.
5. Write your (real or assumed) name on each separate paper.
6. Always let your communications be accompanied by your name and address. For *publication* you may adopt any signature you please.

Thanks.—Apollo; W. H. B.; G. Mapp; Poor Richard; Abram Sturrock; Maud; Eunice; Dudley Dumps; John Tamock; A. Kerr; Hurdis; W. A. Rothwell; T. Laurens; E. J. Paul; J. N. Hobbs; T. Mitchell; K. M. S.; Cymreiges; Oxoniensis; Bodkin; J. W. Mills; Scheherazade; Ichabod; R. Stratton; Rowena; Lionel; Alphonso; Friar Tuck; J. P.; A. A. Stuart; W. H. H.; Black Robin; W. Shaw; Mars; H. H. Jones; Sapere Aude; Biceps; The Ayrshire Laddie; James Fenton; Mira; Rose; J. W. Jefford; W. L. Wild; J. T. Evans; Aaron Smith; C. F. Redman; Lizzie; Borrowbrick Hall; George Newton; Labournam; M. D. N.; Sarah Anne; Constans; T. L. Simpson; T. Denham; J. T. Ridley; Cure; Ecclier; A. A. Stuart; Cymro Callestr.

Received.—Apollo; Taceo; Try; Hurdis; Phelps; J. W. Mills; H. M. Settle; J. Mayo; Bodkin; Scheherazade; W. G. W.; R. Stratton; J. Wharton; E. Hughes; Jn. May; Alphonso; P. T.; Friar Tuck; W. H. H.; H. Nicholl; A Young Beginner; J. Overend; An Enquirer; Abacus; F. Brough; George Newton; Lydia; Labournam; Lipup; Holwr.

ANSWERS TO CORRESPONDENTS.

Honorary Pupil-Teachers. (Violet, Leeds).—Your question is one which requires a careful answer. You could not introduce such teachers without the authority of the managers of your school. They would of course be able when old enough to compete for Queen's Scholarships, but they would not be examined annually by H. M. Inspector, except as belonging to your first class. Some parties have objected to monitors receiving instruction with Pupil-teachers. We do not think that the objection is in all cases a wise one. Generally, those "monitors" or "honorary Pupil-teachers," or "teachers," or "assistants," render essential service to Pupil-teachers, not only in the school-room, but in their studies also, and Pupil-teachers like them to take lessons with them. So long as the conditions under which the Government aid is granted are faithfully carried out, and the result of the examination of school and Pupil-teachers is satisfactory, the Committee of Council do not interfere with such arrangements as those to which we presume your inquiry refers.

Supplement to the PUPIL TEACHER. (Alphonso).—We are truly gratified to receive so many kind letters from our contributors expressing satisfaction with our efforts to make our periodical what all interested in it desire it to be. Some propose its permanent enlargement, others a bi-weekly issue, and you are not the first who has proposed an occasional Supplement. Your suggestion is worthy of consideration. In the meantime, we shall do what we can to avoid future arrears of answers. Our present plan is to publish first those solutions, &c., to which the greatest number of answers have been sent in.

Fourth Year Examination. (Mars).—G, if not V. G.

Pronunciation. (Elgin).—The family name of the House of Hanover, "Guelph," is generally pronounced *Welf*.

Q. S. Examinations.—We have received numerous letters on the subject, and we will endeavour to answer all the inquirers in our November number.

History. (Mary).—Mary wants to know "whether it is necessary to learn the whole history of the king of each reign—his life, marriage, issue, and death—for our examination." Really, "Mary," you are too hard upon us! Learn whatever you are told to learn as thoroughly as you can, and in the manner directed by your Teacher. We will not venture to tell you not to learn all such details "by heart," but we shall certainly not tell you to do so. This is certain—you ought to have "at your finger's ends"—or rather "tongue's tip," the date of the accession of each monarch, and to be able to give such information about him and his family as is generally allowed to be important.

Propriety. (Limpy-Lumpy).—This young gentleman who writes for himself and his fellow Pupil-teacher (names and addresses, very properly, sent in full), puts it to the "Editor's Council," whether it is "proper for Pupil-teachers to gather manure along the streets of the town in which they serve, and to fetch milk, water, flour, &c. &c. &c." Mere matters of taste. Circumstances alter cases. No definite regulation on the subject has been issued by the Committee of the Privy Council, to which the Editor's Council begs to refer L. L. & Co.

Intelligence.

DESTRUCTION OF ST. MARTIN'S HALL BY FIRE.—On the 26th of August, between the hours of three and four, a.m., St. Martin's Hall, Long-acre, was destroyed by fire. We are happy to state that the building and its contents are insured. The first stone of St. Martin's Hall was laid by Viscount Morpeth (now Earl of Carlisle), on the 21st of June, 1847. It was built by Alderman Cubitt, from the design of Mr. R. Westmacott, on a site which it is understood was presented to Mr. Hullah by one of the great civic companies, either the Goldsmiths or the Mercers. The style of architecture was Elizabethan, with iron-arched and panelled roof of immense span; and the Hall would comfortably accommodate 3,000 persons. It was first opened on the 11th of February, 1850.

THE NATIONAL CHORAL SOCIETY.—This Society is now being formed under the direction of Mr. G. W. Martin. Its objects are—1. To represent more effectively the national taste and skill in Choral Music. 2. To hold an annual congress of Choralists from suburban and provincial societies in union, affording a centre around which may be united all the great Choral Societies in the kingdom. 3. To hold weekly rehearsals of the works of authors calculated to promote the primary objects of the Society. 4. To give during the season a series of grand performances of selections from such authors. The Central Society is to consist of 1,000 voices as a maximum. Admission to be obtained on the recommendation and vote of the members, with the approval of the Conductor, and on payment of the subscription—gentlemen, 10s. 6d.; ladies, 7s. 6d. per annum. Members will be entitled to a ticket for a friend for each performance, and to purchase at cost price any music sung by the Society. There are, already, upwards of 500 members.

OBITUARY.—The members of the South London Pupil-Teachers' Mutual Improvement Society have lately suffered a great loss in the death of Charles Waterman, one of its earliest and warmest supporters. The deceased was a Pupil-Teacher (4 years) at St. Barnabas Schools, South Lambeth.

DENMARK AND SWEDEN.—The Danish Government have had shipped at North Woolwich, twenty-eight miles of strong submarine cable, fourteen miles of which contain six conducting wires, and fourteen miles three conducting wires. These cables are intended to be laid down partly between Denmark and Sweden, and partly between the Danish islands and the mainland. Messrs. W. T. Henley were the contractors, and Mr. Andrews, the engineer of the Submarine Telegraph Company, was appointed by the Danish Government to supervise on their account. The additional number of wires to Sweden will afford increased accommodation to the telegraphic business between this country and Sweden and Norway.

THE PUPIL-TEACHER.

UTILITARIANISM.

(Continued from page 255.)

Now Mr. Grubbins was a philanthropist, in a restricted sense of course. He had the means of doing good to his fellow-creatures, and he made tolerable use of those means: that is to say, he was rich, and he gave more liberal donations than those who were wealthier than he. It may be suggested that his donations were prompted more by pride than by philanthropy. Possibly they were. Still there are many worse ways of exhibiting pride than that of giving money to charitable purposes. In nothing does a man show his true disposition so strongly as in his weaknesses—his failings; and it is always pleasant to find a man's failings leaning to virtue's side. What a difference is sometimes seen between the conduct of two individuals equally under the influence of inebriety. The one, hilarious, frank, smiling on all around, disregarding insult, and apparently having no care except to see others as merrily inclined as himself. The other uproarious and suspicious, frowning, threatening; his hand against every man, because he believes every man's hand to be against him. Now it is as morally wrong for the one man to be drunk as it is for the other. Society even may suffer more from the good-tempered man being addicted to intemperance than from the intemperance of the ill-tempered man. But this does not appear on a superficial view of the case. For instance, the good-tempered man has plenty of spare money in his purse; he watches a group of children making mud-pies or playing kiss-in-the-ring; he goes to the old fruit-woman and bargains for her entire stock, which he either "scrambles" for the amusement of all concerned, or distributes with punctilious regard to fairness amongst the youngsters. Or it may be he takes compassion on that poor woman with her baby in her arms, and two small children clinging to her time-worn dress; he sees her higgling for "those scraps of mutton," and in the fulness of his heart or the fancy-fits of his inebriety, he insists upon paying for a prime joint for the "good lady," whom, by the way, if he were quite sober, he would scarcely deign to speak to. Aye, and the joint must be sent home for her too—she has enough to carry. He is about leaving the shop, after paying Mr. Butcher—but he has an after-thought. "Here, stop my friend, there's your joint, but you'll want the *et ceteras*.—" "The what, sir, please?" "The *et ceteras*, what else to be sure—potatoes, and currant jelly, and macaroni—all the rest of it—you know. There's the needful—you can bring the change to me when I'm passing this way." Oh, sir, I'm sure I don't know how to—" "There, never mind. Give the change to the boys, or the girls, or whatever they are—good day—*bon appetite*."

Now look at the other "gentleman disguised in liquor." There he lies, embracing his mother earth, and assuring the by-standing boys that he is making the ascent of Mont Blanc. They laugh; this enrages him. He rushes into the chandler's shop and energetically bombards his tormentors with eggs, hearth-stones, butter, bath-bricks—anything that comes to hand. He knows he is doing damage, but he is quite willing to make compensation for it; or, he sees a little girl coming along, carrying a jug of milk very carefully—"only for fun" he knocks it out of her hand, and when her lamentations have been long and loud enough to please his manly spirit, he gives her a coin of sufficient value to cover the expense of such another jug—such another quantity of milk. He neither knows nor cares whether that milk was wanted immediately for the child's invalid mother, or dying sister. He cares for "fun," that is all he cares for—at present; and when his "funny" humour subsides a little he will "pitch into" all who incur his displeasure—right and left.

We have perhaps urged our point to its utmost limits in representing drunkenness as a failing; we shall perhaps be told that drunkenness is a crime. We shall not argue the point. The illustrations which we have suggested are by no means extravagant, and it is not necessary to refine our terms or to define the precise line of demarcation between a failing and a vice, to demonstrate the truth of our proposition, that a man's failings are often indicative of his mental bias and of his real principles.

The Grubbinses are a large family, that is to say, their family connection is extensive, there is scarcely a village, much more a town where some of the Grubbins' people may not be found. And if they have not something to do with the schools and with the benevolent institutions of the place where they reside, it is something worthy of notice. But they are not liked. The poor whom they assist occasionally, either directly or indirectly are very obsequious to them. The tradespeople are "very much obliged" for any little patronage they receive from those whom they address, as though they were veritable nobility, and speak of a "mushroom gentry." The schoolmaster and the schoolmistress treat them most respectfully, and are in constant dread of the Pupil-teacher being so thoughtless or so rude as to even appear to notice the awkward blunders that such gentry are almost sure to make in the course of their "visit" to the school. In short, everybody attributes their interest in schools and other benevolent institutions to interested motives.

We are not enamoured of the Grubbinses, they are very over-bearing, very annoying sometimes, but really there is much to be said in their favour.

(To be concluded in our next.)

ACTS OF PARLIAMENT.—The following is the result of the legislation of the late Session, as far as respects Acts of Parliament. Number of Acts passed—viz., Public general, 154 chapters; local, 203 chapters; private, 10. Total, 367. The Session 1859 produced:—Public general, 101; local, 167; private, 7. Total, 275.

NOTES OF A LESSON ON CHEMISTRY.

V.—ON CHEMICAL COMBINATION, CRYSTALIZATION, ACIDS, AND TECHNICAL NAMES OF CHEMICAL COMPOUNDS.

I. On Chemical Combination.

(a) Between homogeneous bodies.

(1.) Of Solids.

(2.) Of Liquids and Æriform Bodies.

(3.) On the particles of Solids and Liquids.

(b) Between unlike Bodies.

(4.) Saturation.

(5.) Neutralization.

(c) Causes.

(d) Experiments.

II. On Crystalization.

(e) Its Use.

(f) Method of Crystalizing Bodies.

(g) Experiments.

III. On the Acids.

(h) General Properties and Uses.

(i) Number and Division.

IV. Names of Chemical Compounds.

I.—The combinations of bodies are brought about by what in chemistry are denominated “the forces of attraction.” Opposed to the forces of attraction are the forces of repulsion, which cause the separation of the elements.

(a.) The attraction which exists between homogeneous bodies, that is bodies of the same nature, is known in chemistry by the name of *cohesion*.

(1.) Cohesion must naturally exist in all solids, because they are composed of an incalculable number of particles combined together by the aid of this force. Cohesion, like caloric, is various in different bodies. As an illustration: iron is composed of an infinite number of particles, kept together by cohesion to such an extent, that it requires a very extraordinary power to separate them. The particles contained in lead are not pressed upon with such force as the particles contained in iron, therefore they are more easily separated. Again: the particles of coal are not acted upon with such force as in the case of lead, therefore a much less force is required to separate them. It may be stated, therefore, as a general rule, that bodies are acted upon by cohesion in proportion to the amount of mechanical power which they require to separate their particles from each other. If the surfaces of two pieces of glass are pressed together, under water, considerable power will be required to separate them again, owing to the combination of their particles by the power of cohesion.

(2.) Cohesion acts with much less force in liquids than in solids; and in æriform bodies we may suppose that it does not exist at all, it being the nature of the particles of all such bodies to expand and diffuse themselves, unless restrained by some artificial means.

(3.) The chemist Boscovich has shown that solidity and fluidity are caused by the shape of the particles of which the body is composed, acted upon by cohesion. For instance, if the shape of the particles is round, which compose the body, then the result must be fluidity, as there is nothing to oppose their motion one way more than another.

If the shape of the particles are any other than spherical, it is obvious that they cannot change their position without altering their relative distances, and consequently produce solids. It must, however, be kept in

mind, that caloric has the power of altering the shapes of the particles of various bodies. For instance, we may conclude that the particles of water are spherical, but if caloric is abstracted, the result is a solid substance—ice; when it is evident that the particles of the body remain no longer spherical; and if caloric is added to the ice, the result will of course be the opposite.

(b.) The force of attraction, which enables two or more bodies of a dissimilar nature to combine together and form another body, is denominated *chemical*, or *elective*, *affinity*. In Epsom salts, each particle is made up of oxygen, sulphur, and magnesium, which are combined together by the force of chemical affinity. An infinite number of these particles, thus composed, combine also together by the power of cohesion, and form crystals of various shapes and sizes. Some bodies unite immediately that they are placed in contact with each other—as muriatic acid and soda. Others frequently require their temperature raised, for the purpose of reducing them to liquids—as copper and zinc, which, when melted, unite with each other and form brass.

(4.) When a liquid has dissolved as much of a solid as it is capable, it is said to be saturated with that solid. For instance, if a glass be very nearly filled with water, and common salt added to it until it will not dissolve, the water is said to be *saturated* with the salt.

(5.) If soda is gradually added to sulphuric acid, in small quantities, it will at first be found to have no effect upon the properties of the acid; but after awhile, as more soda is added, the acid will lose its properties, and the mixture will, by degrees, possess the qualities of the soda. From this it is evident, that when these two bodies, and others like them, are mixed together, the properties of either the one or the other predominate, according to the proportion of each; and that when such bodies are mixed in certain proportions, they must destroy or hide each other's properties so that both will disappear. When bodies thus hide each other's properties they are said to *neutralize* each other.

(c.) The causes of attraction may be attributed to either one of the following, viz., gravitation, electricity, or magnetism. Newton has proved gravitation to be common to all substances, but electricity and magnetism are peculiar to certain classes of bodies only.

(d.) Illustrations of chemical affinity may be seen by the following:—

Experiment 1.—Dissolve an ounce of acetate of lead in about a quart of distilled water, and pour the solution into a glass decanter, having a piece of zinc wire suspended within it from the cork. In a very short time a beautiful metallic tree will be produced.

Experiment 2.—Pour a small quantity of water into a phial containing about one ounce of olive oil; shake the phial, and afterwards add a solution of caustic potass, when a soap will be produced by again shaking the mixture and then allowing it to remain still for a few minutes.

Experiment 3.—Grind to a fine powder equal portions of acetate of lead and sulphate of soda, and well rub them together, when they will combine and form a fluid.

Experiment 4.—Mix together a saturated solution of carbonate of potash,

and a saturated solution of muriate of lime. These two transparent liquids, thus combined, will form an opaque solid; but if a little nitric acid is added, the solid will be changed to a transparent fluid again.

Experiment 5.—A combination of oil of vitriol and water, two cold liquids, will produce intense heat.

Experiment 6.—Add a little boracic acid to a teaspoonful of alcohol, and stir them well together in a teacup. If the mixture is then set on fire, a very beautiful green flame will be produced.

Experiment 7.—Pour into one glass a small quantity of the solution of green copperas, and into another glass a little tincture of galls. It will be seen that both these liquids are transparent, but if they are mixed together they will become quite black, producing common ink. By adding a little nitric acid to this mixture, it will become quite transparent.

Experiment 8.—Mix sulphate of iron in water, and the mixture will appear turbid. If a skein of cotton thread is dipped into this mixture, it will take up the whole of the iron, and the liquid will become transparent.

Experiment 9.—If alcohol is mixed with barytes, and the combination set fire to, a beautiful yellow flame will be produced.

II.—Crystallization is a congelation into crystals. Originally the word crystal implied ice. Pliny informs us, however, that at a very early period the ancients applied the name to crystallized silex, or rock crystal, because they imagined that body to be water congealed by cold. Chemists at present use the word to denote, generally, the regular figures which substances assume when their particles have full liberty to unite according to the laws of cohesion.

(e.) Nearly all the salts, and many of the metals, are capable of assuming the crystalline form. It has been observed, that there is a particular shape for the particles of various bodies, which can be seen by the aid of crystallization; and this is, therefore, one of the best means of distinguishing such substances from others. For instance, common salt, when crystallized, assumes the shape of a cube; sulphate of soda, a six-sided prism; carbonate of lime, a rhomboid; nitre, a six-sided prism; sulphate of magnesia, a four-sided prism, &c., &c.

(f.) It is obvious, that the particles composing a body must be at liberty to move before they can crystalize, and that no body can be crystallized unless it can be also reduced to the liquid state. This may be done by solution in some *liquid*, and by *heat*. Salts are crystallized, generally, by being dissolved in water, and the water being allowed to evaporate, when the saline particles by degrees approach each other and unite, and thus form crystals which become larger by others joining them in like manner by the attraction of cohesion, when they fall by their own weight to the bottom of the vessel employed for the purpose. Bodies apparently the most opposed to the crystalline state, nevertheless can be sometimes made to assume it by artificial means. Thus the simple bodies sulphur and phosphorus may be mentioned, neither of which, in its common state, has the appearance of crystallization. Each, however, may be made to crystalize by a proper chemical treatment; and so strongly developed is the crystalline tendency in sulphur, that it may be made to crystalize in two different ways.

(g.) *Experiment 1.*—Saturate water kept boiling, with alum. After which suspend a cinder in the solution by means of a horsehair, and let the liquid cool, and a magnificent crystallization will take place, gradually, around the cinder.

Experiment 2.—Mix one ounce and a half of sulphate of soda, or Glauber's salt, in four ounces of boiling water, when it will dissolve. Pour the mixture while boiling into a Florence flask, and immediately cork it close so as to exclude the air. After twelve or fifteen hours the cork may be removed, when crystallization will rapidly take place, and some beautiful crystals will be formed.

Experiment 3.—Sugar-candy is an instance of crystallization, The solution containing the dissolved sugar is allowed to evaporate slowly, and as it cools it forms the crystals. The threads that may be found in some of the crystals of sugar-candy are placed there to hasten their formation.

III.—We have many reasons to suppose that the acids are the most useful and important of all bodies in the science of chemistry. There has been, from time to time, great diversity of opinion respecting their general nature and composition; and at the present time these subjects form topics of discussion among some chemists.

(h.) The general properties of acids are—

(1.) They are capable of being combined with certain other bodies, such as the alkalis, earths, and metallic oxides, and thus form the important division of substances, called *salts*.

(2.) They are generally very sour, as their name implies, and some are acid and corrosive.

(3.) They generally have the power of turning blue vegetable colours to a red.

(4.) They generally evaporate by a small degree of heat.

(5.) They generally combine readily with water.

(i.) The acids at present known amount to about eighty, and have been differently divided by various chemists. Some classify them into three divisions, according as they are formed from mineral, animal, or vegetable bodies. Others have divided them into—

(1.) Oxygen acids, which amount to twenty-six in number.

(2.) Hydrogen acids.

(3.) Acids *said* to contain neither oxygen nor hydrogen.

(4.) Acids from organic matter, which amount to forty.

Both of these divisions, though perhaps the best at present known, are open to objections; for all professed chemists pronounce that acids are formed by the union of either oxygen or hydrogen with certain other bodies before mentioned.

IV.—The following besides those already enumerated, are the principal technical names given by chemists to various chemical combinations:—

(1.) *Oxides* are formed by the combination of oxygen with other of the ultimate elements. According to the proportions of oxygen combining with another element to form an oxide, the resulting compound is denominated an *oxide*, or a *deut-oxide*, or a *trit-oxide*, &c., respectively, until the point is discovered in which the oxygen has combined in its greatest proportion, when the compound form is called a *per-oxide*. Hence we may

have an oxide, deut-oxide, per-oxide, &c., of iron by oxygen combining with the iron in different proportions.

(2.) In like manner if oxygen is combined with any other element to form an acid, in one proportion only, the element with which it is thus combined will have certain letters of its termination agreeing with the terminal *ic*; hence we have sulphuric acid, chloric acid, &c.; the first being a combination of sulphur and oxygen in one proportion, and the second being a combination of chlorine and oxygen. If the oxygen combines in two proportions with the element, its termination will end in *ous*, as sulphurous acid, &c., a combination of sulphur with two proportions of oxygen.

(3.) When the non-metallic elements which end in *ine*, as chlorine, iodine, &c., combine with any of the metallic elements, the compounds so formed terminate in *ide*. Thus, chlorine and gold form the chloride of gold; and we have *proto-chlorides*, *proto-iodides*, *deuto-chlorides*, &c., resulting from one, two, or more proportions of chlorine, iodine, &c., with one proportion of the metal.

(4.) When two simple non-metallic elements combine with each other, such as chlorine with bromine, or chlorine with iodine, the compounds formed are denominated the chloride of bromine, or the chloride of iodine.

(5.) When sulphur, arsenic, phosphorus, carbon, or selenium, &c., combine with a metal, the compound formed is denominated a sulphuret, arseniuret, phosphoret, seleniuret, &c.

(6.) It has been before stated that acids, with certain other bodies, produce *salts*. Thus sulphuric, or sulphurous acid will combine with soda, and the former produce the sulphate of soda, and the latter the sulphite of soda.

(7.) The substance dissolved by the aid of an acid to form a salt, is denominated the *base* of the salt.

(8.) When water chemically combines with any compound, such compound is called an *hydrate*. When water is absent from a chemical compound, it is said to be *anhydrous*.

(9.) When a solid is dissolved by a liquid, and the compound thus formed is transparent, we have what in chemistry is denominated a *solution*.

CHARLES F. REDMAN.

(To be concluded in our next.)

NOTES OF A LESSON ON THE VEGETABLE KINGDOM.

(Ages of Children, from Nine to Twelve.)

I.—INTRODUCTION.

In the natural world are three divisions, called kingdoms, viz., the Animal, Vegetable, and Mineral kingdoms. The Vegetable kingdom is that division of natural objects, which includes all *organized structures* that *live* and *grow*, but do not *feel*. Its members are called by the general name of *plants*. Plants are distinguished from *animals* chiefly by the absence of *sense* or *feeling* in the former, and the *power of locomotion* possessed by the latter; from *minerals* by the *possession of life* by the former, and the

absence of it in the latter. Very great variety of (a) form, (b) size, (c) colour, and (d) structure, exists among plants.

EXAMPLES.—(a) The *grass* we tread under foot, and the mighty *oak*, spreading its arms far and wide. (b) The diminutive *Alpine willow*, and the enormous *banyan*. (c) The dark and sombre *cypress*, and the brilliant *rose*. (d) The soft *mushroom*, and the solid *mahogany*.

II.—DISTRIBUTION OF PLANTS.

According to the late Baron von Humboldt and others, the earth may be considered as divided into seven *Vegetable Zones*, as follows:—

- (a) The zone of the *spices, and other aromatics*. (b) The zone of the *sugar-cane, and coffee shrub*. (c) The zone of the *fig and olive trees*. (d) The zone of the *wine-grape*. (e) The zone of the *oak, elm, and beech*, and the *better kinds of corn*. (f) The zone of the *fir, pine, and birch*, and the *hardier kinds of corn*. (g) The zone of *mosses, lichens, and dwarf shrubs*.

This classification is not intended to convey the idea that the plants which give their names to the different zones, are confined exclusively to those regions, or that the earth's surface is girdled with regular zones of *aromatics*, of *sugar-canes*, of *figs*, &c.; but simply to indicate, generally, the regions where they and kindred species come to the *greatest perfection*. The order of succession given above, is from the equator, north and south, to the poles. Arnold Guyot, speaking of vegetable life in the Frigid zones, says:—"A colourless and stunted vegetation, a few creeping shrubs, none of those stately forests, which make the ornament of the landscape, with mosses and lichens, covering boundless plains, belonging only to a few species, notwithstanding the immense number of the individuals, make up the flora of the cold regions." Again, "In the *Temperate zone*, the preponderance of the phanerogamous plants, the beauty of the forests, and the appearance of evergreen trees, are signs of great advancement. Meantime, the soft tints, the modest forms, the winter sleep, interrupting the life of vegetation during long months, tell us that the triumph of life is not yet complete." "But it is in the hot regions of the tropics that the vegetable life of nature displays its fullest energy, its greatest diversity, its most dazzling splendours. The cryptogamous plants attain, in the arborescent ferns, the proportions of our forest trees. The grasses, which we only know in our climates under the humble forms they put on in our fields and pastures, rise into the elegant and majestic bamboo, to the height of sixty or seventy feet, and become real trees. The forests seem double in height, and of a density unknown in our climate. A single tree is a garden, wherein a hundred different plants intertwine their branches, and display their brilliant flowers on a ground of verdure, where the varied lines and forms of their leaves are blended together."

III.—NOTICES OF SOME REMARKABLE PLANTS.

(1.) The *Palo de Vaca*, or cowtree, of South America.—Humboldt says of this tree, "On the parched side of a rock, on the mountains of Venezuela, grows a tree, with dry and leathery foliage, its large, woody roots scarcely penetrating into the stone. For several months in the year its leaves are *not moistened by a single shower*; its branches look as if they were dead

and withered ; but when the trunk is bored, a bland and nourishing *milk* flows from it." This fluid is thick and glutinous, and possesses the taste and qualities of animal milk, with a balsamic perfume.

(2.) The *Candle-berry Myrtle*.—This shrub grows (generally in *white sand*), near the Cape of Good Hope, and produces berries from which *candles* are manufactured : hence the name.

(3.) The *Butter-tree*, a native of Ashantee, resembles the American oak, and produces white, firm *butter*, equal, if not superior, to that obtained from milk.

(4.) The *Troolie*, of Surinam, produces leaves *a yard wide*, and *ten yards long*, which are used by the natives for covering their houses, &c.

(5.) The *Banian* tree, of India, grows to such an enormous extent, that one of them has been found to be capable of sheltering 30,000 *cavalry*, and another measured 2,000 feet in circumference.

(6.) On Mount Etna, in Sicily, there are three famous *chestnut* trees, measuring respectively 64, 70, and 180 feet in circumference.

(7.) In Norway and Sweden, there are birch trees so small, that a dozen of them might be placed side by side on a page of this journal, without touching one another.

(8.) The *magnificent Titan*, or *Rafflesia*, the largest flower in the world, bears blossoms nine feet in circumference, and weighing 14 lbs.

IV.—AGES OF PLANTS.

Fungi, and plants of a like nature, live only a few hours or days ; mosses generally exist but one season ; annuals (as their name implies) live a single year ; stocks, hollyhocks, &c., generally two years. The olive sometimes lives 300 years ; the oak, 600 years ; the chestnut occasionally 950 years ; and Adanson, the French naturalist, mentions *banians* that must have existed in the time of Adam. Dr. Candolle gives the following list of very old trees :—Elm, 335 years ; Cypress, 350 ; Ivy, 450 ; Larch, 576 ; Orange, 630 ; Olive, 700 ; Oriental Plane, 720 ; Cedar of Lebanon, 800 ; Oak, 1,500 ; Lime, 1,147 ; Yew, 2880 ; Basbab, 5150 ; Taxodium, 4,000 to 6,000.

V.—USES OF THE VEGETABLE KINGDOM.

(a.) *Roots*.—In bulbous and tuberous plants, the root is often the most valuable part to man, as in the potato, turnip, mangel wurzel, carrot, radish, onion, cassava, manioc, and others. The roots of other species of plants, are also of considerable use, as the guava, orris shrub, rhubarb, ipecacuanha, ginger, liquorice, &c.

(b.) *Stems or stalks*.—The stems or trunks of trees furnish us with that important production, timber. The bark of the oak is indispensable in tanning ; that of the cinnamon tree forms the well-known spice ; that of the cinchona, or quinquina, is a valuable medicine in agues, and the like ; and the inhabitants of the Society Islands make clothes of bark. The pith of a plant growing on the banks of the rivers of China and India is manufactured into a peculiar sort of paper used by painters ; and the article commercially known as sago, is the manufactured pith of the landau tree, a species of palm ; cork is the bark of a tree growing in Spain, Italy, Germany, &c. The black, heavy, outer bark of the Chinese aloe, is called

eagle-wood ; the brown, middle bark, burns like a candle ; and the inner bark is used as a cordial and perfume. Our common rush pith is used in the candle manufacture, and for pith balls in electrical apparatus. The rushes themselves are employed in making chair-bottoms, baskets, &c., as are also canes, osier withes, &c. The stalks of corn, called straw, are used in thatching, in packing, and for littering stables, &c. ; and lately in the paper manufacture. The stems of the flax and hemp plants furnish raw material for the manufacture of linen and ropes ; and those of the common reed, when split, are superior to straw for thatching. In the tropical regions, the hollow, jointed stem, or rather trunk of the bamboo is used by the inhabitants for building their houses, boats, bridges, &c. ; for making bedsteads, chairs, tables, and domestic articles generally ; and for tools, fences, cordage, &c., &c., *ad infinitum*. From the trunks of firs and pines, ooze turpentine and resin ; others yield gums, such as caouchouc or India-rubber, gum arabic, lignum vitæ, storax, &c. The well-known and universally-used substance, sugar, is principally obtained from the stem of the sugar-cane. These are a few of the uses of this department of the Vegetable kingdom.

(c.) *Leaves and Flowers*.—The plants whose leaves are their most useful parts are,—the various kinds of grass and herbs ; the varieties of cabbage, lettuce, &c. ; the different kinds used in medicine, as senna ; and, the most important of all, the tea plant. The flower is the least useful part of plants to man, except those that yield perfumes, dyes, and drugs, and those of the hop plant.

(d.) *Fruits and Seeds*.—The most important products under this head are,—the grain of wheat, and other kinds of corn ; rice, coffee, cacao ; nuts ; banana, plantain, bread-fruit, pine-apple, yam, tamarind, and other tropical products ; cotton ; figs, apples, pears, plums, olives, oranges, lemons, grapes, peaches, cherries, strawberries, currants, dates, and other fruits of the Temperate zone ; beans, peas, cucumbers, pumpkins, &c. Most of the spices come under this head.

(e.) *Collectively*.—Besides the uses enumerated above, and innumerable others besides, we have to mention the two principal uses of this department of nature, considered as a whole.

(1.) It renovates the atmosphere by *absorbing* the poisonous *carbonic acid gas*, given off (a) by animals in breathing ; (b) by burning bodies ; (c) from the decay of animal and vegetable matter ; and (d) from fissures in the earth's surface, and *exhaling oxygen*.

(2.) It changes the appearance of the external world from a desolate, dreary expanse of rocks and stones, to that of a verdant, diversified landscape—from scenes worse than those of Sahara or Terra del Fuego, to the green valleys and lovely glades of Old England or sunny Italia.

APOLLO.

EXPORT OF COAL.—During the month of August the total quantity of coal and coke exported from the various coal ports of Great Britain was :—Of coal, 693,1 tons, and of coke 16,383 tons.

NOTES OF A LESSON ON CEYLON.*

I.—POSITION.

CEYLON, an extensive, somewhat wild, but beautiful island, forms a close appendage to Hindostan, whence it is separated by Palk's Strait and the Gulf of Manaar. This channel is about 50 miles across.

II.—EXTENT.

Ceylon is about one-fourth less than Ireland. Different sizes of it are given, *e.g.* :—

270 miles by	140, Maunder.
300 " "	160, Murray.
260 " "	150, Tomlins.

III.—PHYSICAL ASPECT.

The general aspect of the country somewhat resembles that of Southern India. A lofty range of mountains extends from north-east to south-west, and divides the island into two nearly equal parts.

The interior of Ceylon is a high table-land, which is surrounded with low shores, about six or eight leagues in breadth; the highest point in this table-land rises to 8,280 feet above the sea. Adam's Peak is about 7,420 feet in height, and is visited by numerous pilgrims, because this was the point whence Buddha, according to his followers, rose to heaven, a large foot-print still bearing testimony to the fact.

"High mountains, prodigious forests, full of aromatic trees and plants, which rise successively behind each other, and many rivers and streams diversify the country, which by the Hindoos is considered a second paradise."

This island is watered by numerous streams. There are five considerable rivers, described by Ptolemy, of which the chief is Mahavilla Gunga, on which stood Maagramum, the capital in his time; and modern Candy stands on the same stream, one of the royal palaces being on an island in that river, where the monarch keeps a treasure of gems. The other four rivers mentioned by Ptolemy are:—

1. The Phasis, running north, perhaps the stream which passes north-west by Ackpol.
2. Soana, that which enters the sea in that direction, near the centre of the island.
3. Azanus flows south-west, that entering the sea near the Point of Galle,
4. Baracus, the Barokan in the East.

Ceylon abounds in lakes, tanks, and canals, and also many saline pools, from which much salt is produced.

Tanks.—"The continual recurrence, in the records of Ceylon, of the establishment of villages and *tanks*, attests the improved condition of Ceylon prior to the time of the Bengal invaders. With these commenced that series of works of irrigation which are among the greatest monuments of man's industry in that part of the world, and which were the source and

* "These notes," says the contributor, "are intended as notes for a Teacher, from which he may form notes of his own on a smaller scale."—ED.

backbone of the prosperity of the island. In fact, the *tank* was to Ceylon what the rudder and keel have been to Great Britain; and the history of the thousand constructions of this class, is, in substance, the civil history of the country."—*Times*, Nov. 18, 1859.

Forests.—The forests are numerous and large. They abound in teak, ebony, satin, rose and other ornamental woods. A great part of these forests is composed of underwood, termed jungles. These jungles afford haunts for the numerous elephants and other animals of the island.

Climate.—Exceedingly diversified: in some parts hot and oppressive, and liable to frightful storms of thunder and lightning; yet the exposure on all sides to the sea renders the air more cool and salubrious than that of the Indian mainland, and the mountain district in the interior enjoys a temperate and delightful atmosphere. The neighbourhood of the jungles is very destructive to strangers.

IV.—MINERAL PRODUCTIONS.

An uncommon variety of precious minerals is found in Ceylon.

Tin, lead, and iron, in abundance; manganese, ruby, amethyst, topaz, sapphires, and other precious stones.

It is also said that this island produces the genuine emerald, which is commonly esteemed peculiar to Peru.

Pearls.—The most extensive pearl-fishery in the globe was carried on in the Straits of Manaar.

In the year 1804 the rent amounted to £120,000 for the right of fishing 30 days with 150 boats; but since 1837 the pearl-fishery has been abandoned.

V.—VEGETABLE PRODUCTIONS.

The vegetable productions of this island resemble, in most respects, those of the adjoining country. The chief are—rice, cotton, tobacco, pepper and coffee.

Rice is largely grown in the lower parts of the island.

Coffee is chiefly grown in the interior province.

The most valuable of all the Ceylonese plants is the cinnamon-tree.

Cinnamon (which you may see in the window of almost any grocer) is the bark of a species of laurel. It grows in the south of Hindostan, but abundantly over a great part of Ceylon, and that reared in gardens in the vicinity of Columbo is considered the best. Upwards of 400,000 lbs. are annually exported to Europe, and more than 25,000 persons, it is said, are engaged either in the culture or harvest of it. The tree attains a height of from 20 to 30 feet, with narrow leaves of a dark green on the upper, but lighter on the under, side. It blossoms in January, *i.e.*, a little after Midsummer. The flowers are fragrant, white, resembling in size and form those of the lilac: they are borne in clusters on long stalks, springing from the axilla of the leaf. The fruit is a small berry, which becomes when ripe a thin shell, containing a single seed. The plant sends up numerous suckers, the third or fourth year after it has been planted. These shoots are cut when they become from $\frac{1}{2}$ to $\frac{5}{8}$ inch in diameter; the bark is stripped off, and is freed from the outermost skin or epidermis. The wood is used for fuel; no preparation is required except drying.

Amongst the most useful of the other trees are the cocoa-palm, palmyra-palm, talipot-tree, tamarind, and bread-fruit.

VI.—ANIMÆ PRODUCTIONS.

Animals are abundant. The most valuable one is the elephant. The elephants of Ceylon are considered the best in the world.

The cheetah, or hunting tiger, two species of wild cats, the bear, and jackal, inhabit the forests.

Monkeys of various species are found everywhere, and, with the ape, sometimes do much mischief.

The great snake, or boa-constrictor; is said to attain the length of 30 feet, and there are some of the most venomous species, as the cobra-di-capella, as well as others which do not bear poison.

Alligators and all the lizard tribe are numerous.

There are peacocks in abundance.

VII.—PEOPLE.

The people of Ceylon are called Cingalese (written also Singalese or Singhalese).

The inhabitants of Ceylon may be divided into four distinct nations, all different in origin, religion, and manners :—

- | | |
|-------------------|----------------|
| 1. The Cingalese. | 3. The Moors. |
| 2. The Hindoos. | 4. The Vedahs. |

The Cingalese are a fine and handsome race, and in their manners polished and courteous; but they are rather indolent.

The rugged, jungly tracts of the interior are inhabited by a savage race called the Beddahs, who subsist by hunting, and sleep under trees, which they climb like monkeys. Some of them, however, are employed in exchanging ivory, honey, and wax, for cloth, iron, and knives.

The Cingalese are worshippers of Buddha; some, however, have embraced the Christian religion, and there are now missionaries working amongst them.

VIII.—MANUFACTURES.

Unimportant, with the exception of arrack, which is extracted from the Cocoa-nut-tree. The native manufactures consist of handkerchiefs, napkins, towels, sail-cloth, table-cloth, and a coarse material made use of for their own dresses.

The natives are also ingenious workers in gold and silver; and excel in producing lacquered ware.

Exports.—Rubies, sapphires, topazes, iron, manganese, cinnamon, pepper, arrack, coffee, cocoa-nut, fine woods, tobacco, and timber.

Imports.—Rice and other grain, cotton cloths.

IX.—TOWNS.

1. Colombo or Columbo. Modern capital and chief sea-port, nearly two miles in circumference, surrounded on three sides by the sea.

It is built somewhat upon the principle of a European town, the fortified part being the seat of the residence of the military authorities; and the most influential residents of Ceylon. The other part is chiefly occupied by the descendants of the Dutch and Portuguese, whilst the native

Cingalese inhabit the suburbs. Colombo is the *entrepôt* of most of the foreign trade of Ceylon. Population about 32,000.

It was built by the Portuguese, in 1638; they were expelled from it by the Dutch in 1656; and the latter surrendered it to the British in 1796.

2. *Trincomalee*.—The harbour of Trincomalee was styled by Nelson, "the finest harbour in the world." The value of this harbour is greatly heightened by there not being on the whole Coromandel coast one roadstead, so that all vessels driven from their stations on that coast seek Trincomalee for shelter.

3. *Point de Galle*, on the S. W. extremity of the island, has a spacious and generally secure harbour, in a beautiful and healthy situation.

4. *Candy*.—The interior capital is only a large village surrounded by wooded lines that echo continually with the cries of birds and wild animals.

Taken by the Portuguese in 1590, and subdued by the English in 1815.

The British Government has constructed an excellent road from the coast to this place.

Newerra Ellia, situate in the hill district to the south of Candy, is the frequent resort of invalids on account of its cool and delightful climate.

X.—HISTORY.

Little was known of this island till 1505, when the Portuguese established a regular intercourse with its inhabitants, and were paid by the king of Candy, to whom it belonged, a tribute in cinnamon to defend it from the attacks of the Arabian pirates. The Cingalese were in a state of exhaustion when they were brought in contact with the Europeans, in the commencement of the 16th century, which event is thus graphically described in the Rajavali:—

"And now it came to pass, that in the Christian year 1522, A.D., in the month of April, a ship from Portugal arrived at Colombo, and information was brought to the king that there was in the harbour a race of very white and beautiful people, who wear boots and hats of iron, and never stop in one place. They eat a sort of white stone, and drink blood; and if they get a fish they give two or three *ridè* in gold for it: and besides they have guns with a noise louder than thunder, and a ball shot from one of them, after traversing a league, will break a castle of marble."

The Dutch first appeared in Ceylon in 1602, and soon ingratiated themselves with the natives, and lent their aid for the expulsion of the Portuguese. The Dutch spent much of their time and labour in expelling the Moors from the coast. The Dutch, while in possession of Ceylon, did not in the least degree endeavour to enhance the state of the people or country; all they thought about was their own gain, by having the produce of the island. The natives began to grow tired of them; and when, towards the close of the last century, the British made their appearance before Colombo, after occupying the strongholds of the island, the surrender of the fortress, without a struggle for its defence, may be regarded as an evidence that the Dutch had become as indifferent to its retention as the Cingalese were rejoiced at its capture.

The island was ceded to the British by the peace of Amiens, 1801.

PERSPECTIVE SIMPLIFIED,
FOR PUPIL-TEACHERS AND OTHERS PREPARING FOR THE
GOVERNMENT EXAMINATIONS.

BY R. H. TURNER, HEAD MASTER OF THE CRANMER SCHOOLS, LIVERPOOL.

LESSON VII.

PERSPECTIVE OF LINES AND SURFACES.

Horizontal Angles.

Line 3' in Exercise VII is in an angular position to the Base Line. The question may have already occurred to your mind, What angle does line 3' make with the Base Line? We will now endeavour to explain this, which you will find to be very simple. You will require an instrument of this sort (Fig. 10), which is called a *protactor*, and is used for

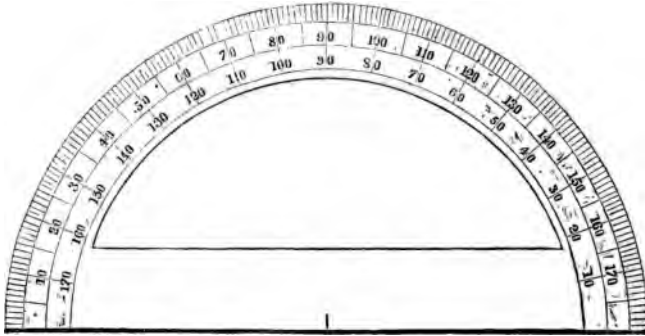
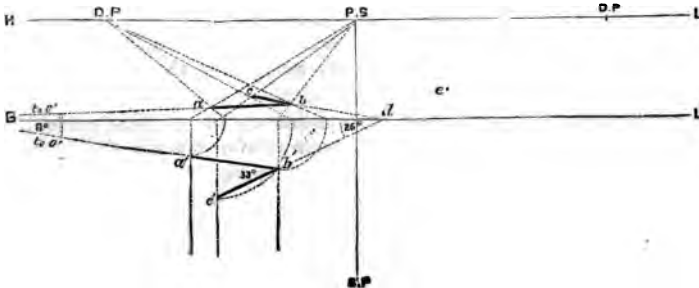


Fig. 10.

the purpose of measuring the inclination of one line to another. You can purchase one at an instrument maker's for a few pence. They are generally made of brass. But if you cannot readily obtain one, you may make one with a piece of cardboard. You will observe that it is a semi-circle marked so as to represent 180° . When measuring or laying down an angle, place the centre point, which is marked on the diameter, on the vertex of the angle or point at which you wish to make an angle; and take care that the straight edge of the diameter lies exactly on the line.

EXERCISE VIII.

PROBLEM VIII.



Given—The perspective angle abc and the representative lines and points.

Required—The size of angle abc , the angle at which the line ba is inclined to the picture, and also the angle at which the line cb is inclined to the picture.

Find the position of points a , b , and c on the original plane. Join them, and you will have a plan of the angle as $a'b'c'$. Now produce lines $c'b'$ and $b'a'$ to the Base Line, as $c'd$ and $b'o'$. In order to obtain point o' it is necessary to produce the Base Line: I have produced the perspective lines cb and ba to the base line, not to assist in working out the exercise, but simply to show the perspective angles. The angle at d formed at the Base Line by ebd , is the perspective angle, of which the angle formed by $c'b'd$ is the original representation. And so of angles $ba'o'd$ and $b'a'o'd$. Now measuring with the protactor we find the angle $a'b'c'$ to be 33° , and the angle at d to be 26° , and the angle at o' to be 8° , which are the angles required.

PROBLEM VIII.—From point e draw a line to the Base Line, inclined to the right, and making with the picture an angle of 30° .

PROBLEM IX.—Draw a line 4 feet long, making, with the Picture Line, an angle of 45° , inclined to the left and nearest extremity 3 feet to the right of the axis of vision, and 2 feet from the transparent plane (*Base Line*).

PROBLEM X.—Represent in perspective an angle of 40° , the apex of which touches the Picture Line 6 feet to the right of the spectator, and one side of which inclines to the perspective centre at an angle of 30° .

In the last problem particularly notice that the angle is to be made with the *perspective centre*, or *Line of Direction*, NOT with the *Base Line*. The Line of Direction makes with the Base Line a *right angle*. Then the angles made by a line drawn from any point in the Line of Direction to any point in the Base Line will be together equal to a right angle; because the three angles of a triangle are together equal to two right angles. Hence the side at 30° to the perspective centre will make with the Base Line an angle of 60° . Then draw the side (*Prob. 10*) at 60° to BL' , and it will be as required.

In *Problem 8* you will first find the position of point e on the original plane, and then draw the line to the Base Line at the angle required.

In working out *Problem 9*, you will remember the remarks in LESSON III., about lines that vanish in the point of distance. *All lines that vanish in the point of distance make with the Base Line an angle of 45° .* In this problem then you will first find the point required in the Base Line, from which a line drawn to DP will be a line at 45° with the transparent plane. Then finding therein the two points, the extremities of the required line, the work is done.

In *Problem 10* you will first place a line on the original plane, at the angle required, and with it, at the point where it touches the Base Line, make the angle of 40° . Then taking any length of the lines of the angle, put them in perspective, and the problem is completed.

Having worked out these problems, set yourself any problems that your *ingenuity* can devise;—angles in any horizontal position on the original

plane, to find their perspective; or perspective angles to find their planes. Take points in the Base Line, on the original plane, or in the picture plane, and make any angles in any position. Seek out a difficulty, and then apply yourself to make it plain. Exercise yourself in this way, until you thoroughly understand what you are about, and you will make matters more easy for yourself hereafter.

Hitherto we have treated of lines, angles, &c., in a horizontal position only. In our next lesson, we will consider the perspective of perpendicular lines.

CRITICISMS.

NOTES OF A LESSON ON COAL.—(p. 259.)

I. The word definition does not apply to substances, but to terms. We describe a substance, "It is a hard, black substance, of a slaty structure," is therefore a description, and not a definition. II. The division, "Where found," is far from being complete. Nothing is said of the coal of other countries. III. Twice too many heads. The lesson might stand thus:—

1. Introduction. From the piece shown might be educed, (a) the qualities, and (b) the formation. 2. Coal Mining. This would comprehend, (a) method of working the mine; (b) accidents; (c) inventions preventive of such; (d) quantity of coal raised in the United Kingdom in 1856. 3. Where found. 4. Varieties. 5. Uses. This might embrace the history of the use. 6. Lessons. COUSIN JACK.

I beg to make a few remarks on the above. In the first place "Pastime" has not mentioned the class for which the lesson is intended. Secondly, after showing a piece of coal to the children, they would be able themselves to give a description of it. "Pastime" has not said that the formation of coal is near the limestone. In the fourth head, "where found," he has mentioned the coal fields of Great Britain only, and said nothing respecting Germany, Sweden, France, Belgium, Canada, Newfoundland, Australia, &c. The writer has said nothing with regard to the *composition* of coal, which is a distinct subject from the formation.

DESPENCER.

NOTES ON THE BASIN OF THE DANUBE.—(p. 263).

As the readers of these notes are left to form their own ideas of the meaning of the term "basin of a river," I presume that in the delivery of the lesson, the children would be left in the same predicament. If so, their ideas would, in all probability, be very confused and erroneous. This, viz., the omission of a description and definition of a river basin, is the chief defect in the notes. Through this omission at the commencement, everything in the lesson *must*, in its delivery, be *told* to the children. They will not be able to find out for themselves, because they have no data to go upon. An accurate idea of what is really meant by the basin

of a river could be conveyed to the children, without giving a formal definition; a practice to be avoided at the commencement of lessons, by means of familiar illustration, leading questions, and ellipses. When the term "river basin" is thoroughly understood, the children will be able to assist in filling up what I think should have found the second division of the notes—the description of a river basin being the first—viz., the *Boundaries* and *Extent*, both divisions merged in one of the basin of the Danube. A description of the river and its tributaries, should follow next; then a description of the whole country included in the basin; its climate and productions, animal, vegetable, and mineral; whether the land is fruitful or barren; and what are the occupations of the people. Under this fourth division the towns engaged in agricultural, mining, and manufacturing pursuits, will find a place. In the notes, the towns only that are on rivers are mentioned. All important towns in the basin, whether situated on a river or no, should be given: *e. g.*, Schemnitz Knemnitz. In working out this division, it will be seen that the basin of the Danube is the richest in mineral produce of any in Europe. Lastly, the commercial and political importance to Austria of a river like the Danube, should be stated. This is omitted in the notes. By the above arrangement a less number of divisions would be needed, there being, I think, far too many in the notes. The children would also learn—

1. How to trace the watershed of a country.
2. That as a general rule, elevated land is found, whether marked on the map or not, as the boundaries of a river basin. Thus the Canadian boundary of the St. Lawrence consists of a range of hills, though these are seldom marked on school maps. Regarding the facts stated in the notes, I would observe on—

I. "Nearly 3,000." In VI. (1) it is stated as 2,200; the exact height should be given in both, as 2,200 ought not, I think, to be called "nearly 3,000."

II. "The second river in Europe, of which it drains one thirteenth of its surface." What does this mean? Its own surface, or that of Europe? Should be, "the." See Cornwell, page 129.

VIII. Greater part of this division is given in the former part of the notes. "The Danube flows for the most part through *swampy* districts." "It is noted for its *rapidity*." How are these two sentences reconciled? Cornwell says it is *RATHER* noted for its rapidity. This important word should not have been omitted, as it makes the two sentences at once intelligible.

R. STRATTON.

MONEY COINED IN FRANCE.—The following is a statement of the quantity of money coined in France since the first revolution: First Republic (Hercules), 106,237,255*l.*; Bonaparte and Napoleon, 1,415,854,495*l.*; Louis XVIII., 1,004,163,170*l.*; Charles X., 685,430,240*l.*; Louis Philippe, 1,972,851,133*l.*; Republic of 1848 (Hercules for silver and the angel for gold), 316,550,065*l.*; Republic (goddess), 567,981,077*l.*; Louis Bonaparte and Napoleon III., 3,757,360,276*l.*; total, 9,828,427,711*l.*

Notes and Queries.

. We wish it to be distinctly understood that we do not guarantee that all the *notes, replies, &c.*, are correct. Criticisms on lessons, parsing, &c., are requested. The Subscribers to the "Pupil-Teacher" should consider themselves as members of a Mutual Improvement Society, and regard our periodical as their medium of intercommunication.

Our Notes and Queries are of three classes:—

I.—Mathematical.

II.—Philological, including Grammar, Paraphrasing, Composition, &c.

III.—Miscellaneous, including all questions on subjects of Study or Method. Questions of Discipline or Management, affecting Pupil-teachers, are discussed in the EDITOR'S COUNCIL.

In sending Answers, merely refer to the number and page thus:—"Mathem. No. —, p. —;" "Philol. No. —, p. —;" "Miscell. No. —, p. —."

N.B.—The number refers to the *query*, not to the "Pupil-Teacher."

MISCELLANEOUS: QUERIES.

23. COCKLES.—(M. A).—The promontory of Bertra, in Clew Bay, county Mayo, is bounded on one side by the ocean, and on the other, by an inlet of the sea, having a large white strand. This latter has been resorted to for picking up cockles and razor fish out of the sand, and the pickers, by industry, might obtain during the period between two tides a few quarts of either. This year, however, the pickers were amazed one morning to find that the scanty supply of cockles had increased to a fabulous amount. By removing a few inches of the white sand the cockles were found lying in beds sufficiently deep to be taken up with shovels, and as soon as it became known the place was resorted to by hundreds daily—some with boats into which the fish were shovelled, others with horses and creels, whilst the picker had only to fill his basket and go home. This has now continued some time, and the pickers say the fish are nearly as plentiful as ever. They are not the very large cockle, nor yet very small. They are a medium size, with large ones amongst them. Query.—Where did the cockles come from, and how?

32. (page 210.)

MATHEMATICS: SOLUTIONS.

$$x^2 - \sqrt{3(x+1)} = 1$$

Transposing

$$x^2 - 1 = \sqrt{3(x+1)}$$

Adding $3(x+1)$ to each side

$$x^2 + 3x + 2 = 3(x+1) + \sqrt{3(x+1)}$$

Completing the square by adding $\frac{1}{4}$ to each side

$$x^2 + 3x + \frac{9}{4} = 3(x+1) + \sqrt{3(x+1)} + \frac{1}{4}$$

Extracting the root

$$x + \frac{3}{2} = \sqrt{3(x+1)} + \frac{1}{4}$$

Squaring

$$\begin{aligned} \therefore x + 1 &= \sqrt{3(x+1)} \\ x^2 + 2x + 1 &= 3x + 3 \\ \therefore x^2 - x &= 2 \end{aligned}$$

Completing the square, by adding $\frac{1}{4}$ to each side

$$x^2 - x + \frac{1}{4} = 2\frac{1}{4} = \frac{9}{4}$$

Extracting the root

$$x - \frac{1}{2} = \pm \frac{3}{2}$$

$$\therefore x = \frac{1}{2} \pm \frac{3}{2} = 2 \text{ or } -1$$

S. EDWARDS.

J. W. Mills, Campbelltown, Urban, Taibach, R. T., John Sinclair, N. Sanderson, and others.

38. (p. 210.)—a.

A walks 4 miles in 1 hour

= 1 mile in $\frac{1}{4}$ hour or 15 minutes

∴ A is 1 mile in advance when B starts

B walks $4\frac{1}{2}$ miles in 1 hour∴ B approaches A at the rate of $\frac{1}{2}$ miles an hour= $\frac{1}{4}$ mile in $\frac{1}{3}$ hour= $\frac{4}{4}$ or 1 mile in $\frac{4}{3}$ = $1\frac{1}{3}$ hours∴ B overtakes A in $1\frac{1}{3}$ hours = 1 hour 20 minutes

But A starts 15' before B, and therefore A is 1 h. 20' + 15'

= 1 h. 35' on the road

And the distance travelled = $1\frac{1}{3} \times 4\frac{1}{2}$ = $6\frac{1}{2}$ miles.

Iva.

J. W. Mills; A. Johnson; Campbeltown; N. Sanderson; Pharamond; R. Stratton; Aaron Smith; S. E.; B. Etips; G. N. Hilder; Ichabod; Trigon; Welsh Mountaineer; T. H. C.

38. (p. 210.)—β. Let x = the No. of miles from the starting pointthen $\frac{x}{4}$ = the No. of hours A will have been walkingand $\frac{x}{4\frac{1}{2}}$ = " " B " "but since B starts 15 min. (= $\frac{1}{4}$ hr.) after A

$$\therefore \frac{x}{4} - \frac{1}{4} = \frac{x}{4\frac{1}{2}}$$

whence, $19x - 10 = 16x$

$$\therefore 3x = 10 \text{ and } x = \frac{10}{3} = 6\frac{1}{3}$$

wherefore B will overtake A after walking a distance of $6\frac{1}{3}$ miles, and at theexpiration of $\frac{6\frac{1}{3}}{4\frac{1}{2}} = \frac{4}{3}$ = $1\frac{1}{3}$ hrs. after starting.

ROBIN HOOD.

J. H.; Bretwalda; R. Fishenden; Henry Tassall; El-tio-Tomas; J. R.; J. Sinclair; T. T. and D. J. Abergwilli.

MISCELLANEOUS: ANSWERS.

12. (p. 188).

δ. I accept the challenge of "W.G.W.," though I hold that the doctor is wrong. A body in motion as a locomotive *must* occupy a space equal to itself, a certain time, or it would travel a journey in *no time*. For divide time into seconds, then—

$$\left. \begin{array}{l} 0 \text{ sec.} + 0 \text{ sec.} \\ \text{or, } 0 \text{ sec.} \times 0 \text{ sec.} \end{array} \right\} = 0 \text{ sec.}$$

We are not able to comprehend the duration of the smallest particle of time, neither are we able to comprehend the length of the smallest division of space, as the requirement at the end will test. (Compare with a recurring decimal.) If a locomotive is driven at the uniform rate of 20 yards per second, it occupies each space contained in those 20 yards successively—1 sec. \leftarrow such number of spaces. Query: If a body occupies a certain space *define*, HOW FAR (!) it must be moved, to occupy the next space.

W. J. H.

(e).—Lucilla in his answer (p. 275) asserts that a body "cannot move where it is," which if so, its velocity has ceased, and it is therefore stationary. Now as the least motion causes the body to occupy a different space, let us take a line, say *AB*, and suppose it divided into an infinite number of parts, that the body is at *A*, that it contains motion, and is proceeding uniformly to *B*. But how does it move at all? How can we imagine that the body passes over a continuous succession of these parts, as any *finite* number of them contain neither magnitude, intervening space, nor length. Certainly, from this view only we can no more understand how a body can change situation, than we are able to comprehend how $\text{infinity} \times 0 = 0 + 0 + 0 \text{ ad infinitum} = \text{a finite number}$. The time, however, affords another consideration. The equation of motion (p. 274) may be more conveniently expressed thus:—Let *m* be any number; then

$$v = \frac{s}{t} = \frac{s \div m}{t \div m} = \frac{0}{0} \text{ if } m \text{ be infinite.}$$

Now though we cannot perceive any value of *v* from the equation $v = \frac{0}{0}$; yet when we know that $\frac{0}{0} = \frac{s}{t}$, that is, the space divided by the time, we understand its value; and that, therefore, as a result, the body does not only move *where it is*, but CONTINUOUSLY *where it is* through the space *s*.

The consideration of the query evidently requires us to divide space and time infinitely; but though the human mind cannot comprehend infinity, yet it can often cope with it, by observing how certain quantities verge towards it.

W. G. W.

Editor's Exercises.

HISTORICAL NOTES RELATIVE TO DURHAM.

11 (p. 128.)

Arranged from the four best papers:—Suum Cuique (1), Lowick (2), J. Fenton (3), and T. L. Simpson (4).

Durham receives its name from the Anglo-Saxon words *Deor*, a wild animal, and *ham*, an abode. It was also called Dunholm, from *Dun*, a hill, and *holm*, an island. Being situated on a small eminence, and being almost surrounded by the Wear, the latter name is now the one most appropriate. The Bishop still styles himself Dunelm.

We have the earliest account of this place in 995, when some monks travelling from Ripon to Chester-le-Street with the disinterred body of St. Cuthbert, according to the superstitious legend, on arriving at the place where Durham now stands, the carriage in which the body lay was rendered immovable by a miraculous interposition. The monks then erected an edifice called the White Church on the spot, and three years after a stone church was built by Bishop Aldun, and dedicated to St. Cuthbert.

After the depositing of the body, the reverence felt to it began to show itself in contributions and donations of land, gold, jewels, &c. These were used, and from them rose the noble fabric of the cathedral, and shortly after sprang up the town.

The town increased rapidly, for in 1040 it was besieged by Duncan, King of Scotland, with a large army, which, however, was defeated with great slaughter by the inhabitants.

In 1069, one of the followers of William the Conqueror, named Robert Cumyn, having murdered some influential landowners in the neighbourhood, the inhabitants rose against him, surrounded the city early in the morning, broke through the gates, fell upon the guards, who had given themselves up to drunkenness and vice, and put them all to the sword. So effectually was this done, that only one man escaped, and he was wounded. To punish this reckless slaughter, William

the Conqueror came with a large army, and on his route he devastated the whole country for sixty miles. As he approached, the inhabitants fled the city, and the monks, taking up St. Cuthbert's body, retired to Laudesfarne.

William again visited Durham in 1072, on his return from an expedition against Malcolm, King of Scotland. During this visit he commanded the castle to be built. He also at this time commanded St. Cuthbert's tomb to be broken open; but while standing by, watching the proceedings, he was smitten with a burning fever, which caused him to rush out of the church, mount his horse, and depart the city in the utmost terror, so much so that he never drew rein till he reached the Tees.

The banner of St. Cuthbert of Durham was reared in the battle of Northallerton by the Anglo-Norman barons, who were anxious to invoke, in their behalf, the ancient superstitions of the Britons, 1138. Ranulph, Bishop of Durham, who represented in this battle the Archbishop of York, stood at the foot of the standard, and read the prayer of absolution, the whole army kneeling before him. Hugh Pudsey, Bishop of Durham, purchased the Earldom of Northumberland and the Chief Justiciaryship of the kingdom, for 1,000 marks, 1189. He, along with William Longchamp, was regent for Richard I.

Cromwell founded a university in the city in 1657, appointing to it the houses and part of the lands belonging to the Dean and Chapter of the cathedral. This institution would have been of great use to the northern counties, but at the Restoration, when the Church recovered her old lands, it fell to pieces. No new attempt was made to establish another university at Durham till 1831. The castle is mostly appropriated by this university, which was incorporated by royal charter in 1837. It was endowed by the Dean, the Bishop, and other persons of the city, for the purpose of giving instruction and granting degrees in the different faculties.

In 1424 the city was crowded with Scotch and English nobility to celebrate the liberation and marriage of James I. of Scotland with the daughter of the Earl of Somerset.

The plague commenced about this time, and raged for five years; all public assemblies were suspended, and several thousand people fell victims to it.

In 1448 Henry VI. came to Durham on a pilgrimage to the shrine of St. Cuthbert.

King John, Henry III., Edward I., Edward III., and Charles I., have all been visitors to this city.

In 1503 the Princess Margaret was entertained with great splendour in the castle.

At the close of the rebellion under the Nevilles, in the reign of Elizabeth, sixty-six persons were executed in the city. From 1589 to 1597 the plague again raged with little intermission.

The cathedral is 460 feet long. The height of the central tower is 214 feet. The architecture is of the Early Norman style; the pillars being 23 feet in circumference, and appearing like enormous cylinders.

Close to the main entrance are the tombs of John and Ralph, Lords Neville. Their tombs were formerly ornamented with figures in a recumbent position, but they are now much defaced. This was done by about 4,000 Scotchmen, who were detained prisoners in the cathedral after the battle of Dunbar.

At the end of the stalls is the Bishop's throne, erected by Bishop Hatfield in 1370. At the west end is St. Mary's Chapel, containing the tombs of the Venerable Bede and Cardinal Langley, the latter of whom died in 1438. The tomb of St. Cuthbert is under the communion.

Besides the cathedral, the city contains six parish churches, most of which are of great antiquity.

Neville's Cross, the site of the battle at which David, King of Scots, was taken prisoner in 1347, is one mile west of Durham.

The neighbourhood teems with historical traditions of the "good old times."

To the west lie the Red Hills, famous for a battle in 1346, in which the Scotch lost 20,000 men and had their king taken captive.

To the left lies Houghall House, for some time the residence of Oliver Cromwell. Also Keiper Hospital, erected in 1112.

Cuthbert Tonstall, Bishop of Durham, was the author of the first work on

arithmetic printed in England. It was published in 1522, with the title "De Arte Supputandi" (on the art of computing).

Richard Fox, the founder of Corpus Christi College, Oxford, was Bishop of Durham, during the reign of Henry VII.

Joseph Butler, a celebrated divine in the reign of George II., was Bishop of Durham.

On a hill above the town stands Auckland Castle, the residence of the Bishops of Durham.

Under the Municipal Reform Act, the city is divided into three wards, and is governed by six aldermen and eighteen councillors.

The Bishop of Durham was, till deprived of it by William IV., chief civil Governor of the county, which has distinct courts and law officers; he presided at the assizes, and all writs were returnable to him, and not to the King.

The city is possessed of a town-hall, which contains a splendid and capacious room fit for public meetings, and which is adorned by a window of stained glass illustrating the most remarkable events of the city's history.

The city is represented in Parliament by two members.

In 1859 the city was presented with two fine guns (taken from the Russians in the Crimean War) by Her Majesty the Queen. They are kept in a park belonging to Mr. Wharton, which that gentleman has thrown open for the use of the public.

A monument is in the course of erection at present (1860) to the Marquis of Londonderry.

Durham has not produced many literary persons of distinction. John Wickliffe was a native of this city. The Venerable Bede also was born here; and in later times, John Hegg, who wrote an account of the legend of St. Cuthbert; and John Hall, a poet of some celebrity.

Durham has manufactures of stuffs, carpets, and brass and iron wares. Large quantities of mustard are grown in the neighbourhood.

[Good papers were sent by the following:—James Gill; Abeille; E. S. A.; Urban; M. L. M.; David Davidson.]

Recreative Exercises.

XXI.—

REBUS.

My first, a seaman brave and bold,
Who bled beside Hispania's shore;
My next, a stream, whose waves have rolled
All dark with swarthy Paynim's gore;
My third, a man whose sole delight
Was painting Nature's noblest mien;
My fourth, a Grecian vale, that might
Be called earth's brightest, fairest scene.
My fifth, an ocean island lone,
Where Cook, the great explorer, fell;
My last a Hindoo Nana, one
Whose fiendish deeds we know too well.
In these initials you may find,
The seventeenth century's noblest mind.

NEMOENE.

XXII.—The *initials* will give the name of a noted living general. The *finals* will give a seaport of Japan.

A cape of Africa.
A place in Ceylon resorted to by pilgrims.
A seaport of Austria.
A tributary of the Mississippi.
An island in Oceania noted for tin.
A town in Germany.
A tributary of the Murray, Australia.
A bay in South Africa.
A tributary of the Danube.

J. LIGHTFOOT.

ANSWERS.

XVII.—(p. 240)—

(a.)—On Prussia's Baltic shore, doth the town of *Memel* stand;
 And *Arabia* is a country famed for deserts vast of sand;
 The *Nen*, an English river long, into the Wash doth run;
 The *Carnatic* is a province large, 'neath India's burning sun;
Hydra's the Grecian town, or isle, which Robert Stratton meant
 Should come before mount *Erebus* of the Southern continent.
 Then by the point in air or sky the *South* was meant I trow,
 And *Tripoli*'s in *Afric*'s land as many school-boys know.
Eger, a German river small, placed by the side of *Ree*,
 And then initials downward read, prove MANCHESTER to be;
 The finals next, you will perceive, traced down with gentle hand,
 Spell LANCASTHIRE, the county's name where Manchester doth stand.
 J. NASH HOBBS.

(B.)—If you, my friends, will go with me,
 O'er land and water—hill and plain,
 We'll find for Robert Stratton's rhyme
 An answer suited to his mind.
 Our faces then to Russia turn,
 And search upon its sea-bound side
 For *Memel*, on the Baltic shore;
 Now turn we south for sandy plains,
 Abundant in *Arabia*;
 The *Nen* to Wash its waters gives;
 Now look on India's eastern side,
Carnatic province there you'll find;
 An isle or town in Greece comes next—
 Of Grecian isles, *Hydra* we'll choose;
 "Volcano now from farthest south,"
 Is what our rhymster next requires—
 And that no doubt is *Erebus*,
 A mountain in Victoria land.
South is the point, in sky or air,
 Which will supply the wanted S;
 Now journey we to *Tripoli*,
 A country on north *Afric*'s coast;
 Our course to northward we pursue,
 Until we reach the *Elder* stream,
 A river in the fatherland;
 The next, dear sir, 'tis very plain,
 Must be Loch *Ree* in Ireland.
 Now if the initials down you write,
 Famed *Manchester* you'll find they spell.
 And then the finals down you trace,
 The county *Lancashire* they'll make.
 Our last is done—dear friends, farewell.

MIRA.

(γ.)—MemeL—ArabiA—NeN—CarnatiC—HydrA—ErebuS—SoutH—TripoliI
 —EydeR—BeE. Manchester. Lancashire. R. STRATTON.

Also: Isaac Carter, Gomer, K. M. S., Sapere Aude, E. S. A., T. Mitchell,
 M. L. A., Poor Richard.

XVIII.—(p. 240)—HerodiaS. (Matt. xiv. 3.)
 AbilenE. (Luke iii. 1.)
 NathanaeL. (John i. 43.)
 NathanaeL. (John xxi. 1, 2.)
 ApostlE. (Matt. xxviii. 19.)
 HermogeneS. (2 Tim. i. 15.)

Hannah (1 Sam. ix. 17). *Selles*, a town in France, on Le Cher.

POOR RICHARD.

Also: R. Stratton, Wm. Shaw, J. N. Hobbs, Lionel, Hurdia, Rose, H. S. S.

The following answer both (XVII. and XVIII.): A Kerr, T. L. Simpson, T. Lawrens, Bodkin, One and All, Apollo, Eunice, W. H., W. A. Rothwell, Bretwalda, Black Robin, G. Newton, Constans, Cymreiges, Sarah Anne, Dudley Dumps, G. Mapp, Biceps, Jas. Fenton, The Ayrshire Laddie, Rowena, Maud, Oxoniensis, Abram Sturrock, Lizzie, Cymro, Callestr, A. A. Stuart, T. Denham, Benedict, R. F., E. L. L., and others.

Selections by the Editor.

ROBERT BLAKE.—We hear that the Duke of Somerset and the Lords Commissioners of the Admiralty have purchased the splendid model of Blake, designed by Mr. Baily, with a view to its being placed in Greenwich Hospital. But why a model? Why not have it in bronze or marble? The fame of Robert Blake is breaking through the clouds. Just two centuries ago his bones were dug from their magnificent tomb in Westminster Abbey and cast into a pit, no man knows where. But genius, virtue, daring, and successes, are things not easily forgotten—Lyne and Taunton, Portland and Santa Cruz, are names which the world cannot afford "to let die." Sooner or later there comes a time for justice. Blake's time is come. His life has been restored to literature. His bust has been set up in the Shire Hall of Taunton, the scene of one of his most splendid deeds. A portrait—a spurious one, we grieve to say—has been placed in the Town Hall of Bridgewater, the place of his birth. The action, which began with a private individual, then extended to the county of Somerset, has now invaded the Admiralty, and will undoubtedly, next year, invade the House of Commons. The Duke of Somerset has done a very wise thing in securing for Greenwich this noble work of art. We trust he will not be content to preserve it in the clay. Next session it is intended to propose a vote to the House of Commons for a national statue. There can be no doubt of the popularity of such a vote. England will have forgotten herself when she ceases to remember with pride and ardour the founder of her navy, the conqueror of Tromp.—*Athenæum*.

LAKE CHAUBUNAGUNGAMANG.—This is a lake in Massachusetts, in Webster County, unrivalled for scenery and chowder. It is a peculiarity of all the names in Webster County that they are unpronounceable.

WASHINGTONIANA.—Three of the choir of girls who welcomed Washington to Trenton, N. J., in 1789, when he was on the way to New York, to be inaugurated President, still survive. One lives in Trenton, another, Mrs. Sarah Hand, resides in Cape May County, N. Y., and the third is the mother of Senator Cheshnut, of South Carolina.

THE DROWNING SAILORS.—Two boats, some time ago, were sent out from Dover to relieve a vessel in distress. The fury of the tempest overset one of them, which contained three sailors, one of whom sunk. The two remaining sailors were floating on the deep. A rope was thrown to one of them from the other boat, but he refused it, crying out, "Fling it to Tom, he is just ready to go down; I can last some time longer." They did so; Tom was drawn into the boat. The rope was then flung to the generous tar, just in time to save him also from drowning.—*Old Jonathan*.

A LONDON DOG.—Smut, a town mendicant, got his living in a safe way. He was a black, shaggy spaniel of average size, who, with a little attention, might have been accounted handsome, and he was generally supposed to have a master, though in reality he had none. He knew and was known to nearly all the City dining houses, which he would enter at dining hours, and there beg for bones and scraps among the customers. He had the precaution to limit his stay at one place to about half an hour at the outside; and as the waiters invariably supposed his

master to be present, he rarely encountered any opposition from them. Several attempts were made by those who knew him to attach him to themselves and give him a permanent home, but none of them succeeded. Smut preferred a nomadic life; and though he would stay for a day or two with an indulgent patron, he invariably ended by asserting his independence, and resumed his vagabond, mendicant life. It was said that he finally fell a victim to the police, who, finding him airing his tongue one sweltering day in August, sacrificed him to the dog-star and the Lord Mayor's proclamation against hydrophobia.—*Leisure Hour*.

OCCUPATION OF ANIMALS.—Bees are geometricians. The cells are so constructed that, with the least quantity of material, they have the largest sized spaces and the least possible interstices. The mole is a meteorologist. The bird called the nine-killer is an arithmetician; also the crow, the wild turkey, and other birds. The torpedo, the ray, and electric eel are electricians. The nautilus is a navigator. He raises and lowers his sails, casts and weighs anchor, and performs nautical feats. Whole tribes of birds are musicians. The beaver is an architect, builder, and wood-cutter. He cuts down trees, and erects houses and dams. The marmot is a civil engineer. He does not only build houses, but constructs aqueducts and drains to keep them dry. The ant maintains a regular standing army. Wasps are paper manufacturers. Caterpillars are silk-spinners. The squirrel is a ferry-man. With a chip or a piece of bark for a boat, and his tail for a sail, he crosses a stream. Dogs, wolves, jackals, and many others are hunters. The black bear and heron are fishermen. The ants are day-labourers. The monkey is a dandy and rope-dancer.

Intelligence.

CRYSTAL PALACE.—The promoters of the early closing movement, ever alive to the desirability of finding rational and cheap enjoyment for those who are released from the cares of business at a reasonable time of the day, co-operated with the Crystal Palace authorities to hold a shilling *fête* on Saturday last—a day ordinarily reserved for the season ticket holders and more aristocratic visitors. The children of the Metropolitan Schools, whose performance in a concert of sacred and secular music at Sydenham in June last was a theme of universal praise, were invited to make holiday and repeat the harmonies in which they have been so carefully trained by Mr. G. W. Martin, the conductor of the Choral Society with which the schools are connected. About 3,000 children, with their teachers, in spite of wind and rain, assembled in the great orchestra, and did ample justice to the programme set down for them, comprising the most popular of the selections of their former concert. The absence of Mr. Martin, in consequence of the death of his sister, particulars of which will be found elsewhere, was a subject of regret; but his place in the orchestra was ably filled by Mr. H. Carvill, master of the Temple and Lincoln's Inn Choir School, and Mr. James Coward presided at the organ. A balloon ascent, performances by the juvenile bands of the Royal Military Asylum, the Children's Establishment, Limehouse, and Norwood Industrial Schools, the drums and fifes of the Grenadier Guards, and a display of the fountains, were all more or less appreciated by the children and their friends. The number of visitors was as follows:—Admission on payment, 5,560; by season tickets, 4,678; total, 10,238.

TESTIMONIALS.

To Rev. Æ. B. Hutchison, B.D., Incumbent of St. James', Devonport, a handsome gold pencil case, accompanied by an affectionate address on the occasion of his birthday, from the Master and Pupil-teachers of the Parochial School, and other members of the Church Choir, "in token of their high esteem and regard for their Pastor and Friend."—On Tuesday evening, Sept. 21, 1860, at a tea meeting of the teachers and elder scholars of the Silverdale National School, a very handsomely bound volume of Rimbault and Hopkins's "Organ, its History and Construction,"

was presented to Mr. Edwin George Musgrave, as a small token of respect and gratitude for the faithful discharge of his duties, as master of the above schools for a period of six years, which he is now giving up, to the regret of many. Also, a very handsomely bound "Family Bible" was presented to Mrs. Musgrave, by her teachers and friends, as a small token of respect and gratitude for the faithful discharge of her duties, as mistress of the above schools.

APPOINTMENTS.—Mr. Edwin Smitheman, late of Newbury, Berks, as master of Silverdale National Schools, October 1st.—Mr. Edwin G. Musgrave, late of Silverdale National Schools, as master of National Schools, Chadlington, Charlbury, Oxon.

Original Poetry.

THE SCHOOL AND THE STREAMLET.

A STREAMLET wends its way,
'Mid trees, adown a sweet Devonian vale ;
With blessings crowned, it flows—light as a fay—
As though 'twould never fail.

The gush of Nature's heart,
That ever beats with pure philanthropy—
It round the mansion winds, but to depart,
And flow in charity.

Around the cottage door ;
Anon to meadow-lands it doth repair :
All joy to thee, with plenteous wealth in store,
All joy, thou streamlet fair !

Fast by the streamlet bright
There stands a school in all its majesty—
A majesty in truth, but hid from sight,
As "treasures" of the sea.

It, too, with smiles benign,
A priceless boon diffuses round its sphere ;
Ennobling thus the man of wealthy line,
Else unennobled e'er.

And minist'ring to him
Whose home is but a lowly, dingy one ;
With it compared, earth's other good were dim ;
This dignifies alone.

O, then, all honour thine !
If this thy glorious work and function here,
The spot is holy ground—the work divine,
And of the heavenly sphere.

And on thy blessed brow
We plant the sacred olive-branch of peace ;
And pray that whilst the precious seed we sow,
Our God will give increase.

All honour thine, we sing—
The woodbine winds around the forest tree,
The royal robes fall round an earthly king—
Thy glory circles thee.

UNKNOWN.

Notices of Books.

A New System of Tabular Geography, adapted for the Use of Teachers. Europe
By FREDERICK BOLUS. Davis and Allen.

This is a successful attempt to simplify and condense the study of Geography. This part, devoted only to Europe, presents at each opening a comprehensive view of the physical and political features of some State. As notes of lessons they will be of great service, and save much time and labour. With such helps students now-a-days are saving themselves half the mental toil we had in our young days, and they get their work done better. The table on European wars is very incomplete; both army and navy should be included, and that table wants otherwise extending to be as useful as the other portion of the work.

Notes to Correspondents.

All Communications for the Editor should be addressed "The Editor of the Pupil-Teacher, 54, Paternoster Row, London, E.C."

METHOD OF ASKING OR ANSWERING QUESTIONS.—Our numerous correspondents would save us an immense amount of labour, and be less liable to disappointment from their communications not being promptly attended to, by attention to the following points:—

1. Write *only on one side* of the paper.
2. Keep each subject distinct from others.
3. *Head* each subject thus:—"Editor's Council," "Notes and Queries," "Editor's Questions," &c. &c.
4. Leave a space at the top and at the bottom of the paper.
5. Write your (real or assumed) name on each separate paper.
6. Always let your communications be accompanied by your name and address. For publication you may adopt any signature you please.

Thanks.—Nemosene; Lionel; J. Tannock; Alphonso; Jugurthae; E. Jones; Bradwalda; Cicero; Isaac Carter; Sillex; W. Shaw; W. G. W.; R. J. Vincent; Colwich; C. F. Redman; R. Turner; A. Baker; T. W. Russell; W. G. Insch; W. J. Harrison; James Anderson; G. N. Hilder; A. A. Stuart; James Gill; E. N. Jordan; Wesleyan Methodist; Dudley Dumps; H. Briggs; Forward; Ichabod; Tnatsnoc; R. Stratton; Hurdis; J. W. Mills; Gomer; El-tio-tomas; J. Hunt; T. Denham; W. L. Wild; Perio; H. A. S.; Abacus; Jammie; A. Higgingsbottom; Alfred Chant; A. Kerr; Aaron Smith; X. Y. Z.; Recreation; W. A. Rothwell; J. Nixon; Rowena; J. T. Evans; W. McCord; W. Thackray; Sedis; W. R.; J. N. Hobbs; J. Reynolds; Quentin; S. Edwards; Apolle; Jean C.; E. F. C.; T. L. Simpson; T. J. C.; Cousin Jack; Benllediet R. Scott; S. G. Green; E. W. W.; Iva; J. Jarrett; Trigon; Abeille; R. Graham; Φλως; Oxoniensis; Taibach; S. Abercrombie; J. Platt; A. Gleaner; Anglo-Saxon; Despencer; Maree; Cambeltown; T. W. Ottoway.

Received.—Timely Arms; Kconnat; Alphonso; Bretwalda; Lionel; Borrowbrick Hall; W. G. W.; Unknown; W. Davis; Henry Foot; H. N. S.; Wesleyan Methodist; Tnatsnoc; Hurdis; T. H. Twist; H. A. S.; J. Mayo; Prospect; Joseph Mitchell; A. A. Stuart; Mathon; G. M. Sharp; Labournam; S. G.; H. Ross.

ANSWERS TO CORRESPONDENTS.

Answers to questions (Beverlac).—In all cases where the proposer can send the answers with the questions, it is well to do so. When the answer cannot be sent, the proposer should quote book and page whence the question is taken.

Assistant Mastership (Kconrat).—We believe that such an arrangement is frequently made, but that it cannot be insisted on as a right.

THE PUPIL-TEACHER.

UTILITARIANISM.

(*Concluded from page 282.*)

"WELL, Johnson," said Mr. Grubbins, to the carpenter who was doing repairs at his house, "how does your boy get on at the new schools?"

"Oh, pretty well, thank'ee, sir—he's not one of the brightest, but he likes his school, and thinks the master mighty clever; which, from what is said of him by others, I think he is."

"Now, what do they *learn* him?—your boy I mean."

"Well, sir, readin', and writin', and summin', of course, and a *vast* of other things, such as I scarcely heerd on when I was a boy; but bless me, sir, things be wonderfully changed now ——"

"I'm not so sure that they're changed for the better, Johnson; now, just look at yourself—a good mechanic; if your *do* have to work hard, you can get on pretty comfortably. You can read your Bible, read your newspaper, make out a bill or write a letter—what more can a man like you want in the learning line?"

"Why, sir, you see, if I had learnt a little geography and history, I should have been able to understand the paper better than I do now, you see ——"

"Ah, bosh!—That's the stuff you hear at them Parents' meetin's, it is; why Johnson, don't you see, if you knew more about politics you might neglect your work more?"

"Well, sir, I can't exactly say as I see that—I know many who can't read a word, who are always getting drunk, and incapable of work; whilst others, who go to the institution and learn all sorts of things, are sober fellows and first-rate workmen, and ——"

"Bah!—now, Johnson, just listen to me. I know you're not a tee-totaller, come take a glass of ale—it all goes in the day's work—I'll just tell you what I think about these new-fangled ways of learnin' boys and girls, and if you don't say I'm right, you're not the sensible man I take you to be."

The invitation and the compliment have the desired effect. Johnson was accounted a sensible man—he was known occasionally to indulge too freely in potations of an intoxicating kind, but generally speaking, he was a sober man; his frequent evening visits to the "Star and Garter" were more from habit, and for the sake of what he termed "good fellowship," than from an inclination to dissipation. He was one of the mechanics' oracles at the "Star and Garter," and as he generally went home sober,

and at a reasonable hour, none of his neighbours thought the worse of him for doing what some of the most respectable Poddlingtonians did.

Johnson left Mr. Grubbins's, full-primed with ale and arguments; he was flattered by Squire Grubbins taking such pains to indoctrinate him with "rational views" on Education, although he was not quite convinced that all Mr. Grubbins said was indisputable.

It unfortunately happened, that when Johnson came home after his day's work, he found his son in trouble: he had been "kept in" at school, and he had to learn an extra task in grammar. "I—I—I—can't—can't—learn it." "Well, don't try," said the father, and he took the book out of the boy's hand. "Tell your master to-morrow that I said you shouldn't learn it."

This was the first time that Johnson had set himself in opposition to the Schoolmaster, towards whom he had always shown every possible respect. That evening he went to the "Star and Garter" earlier than usual, and he took the earliest opportunity to introduce the subject "uppermost in his mind." Most of those who associated with him had boys in the school; the subject was therefore one of general interest, and the result of the discussion was such as might be anticipated. From the following morning the real difficulty of the Schoolmaster and Pupil-teachers commenced. The School Committee they might satisfy, but it was impossible to satisfy the tap-room committee of uneducated mechanics. The School Committee was composed of influential persons, commonly so-called, but the influence of its members was insignificant in comparison with that of the "Star and Garter" educationists. When once the notion that the children were required to learn too much, and to give attention to too many subjects, was fairly started, the effect was unmistakeable. If the Pupil-teachers called on the parents to urge on them the necessity of seeing that home lessons were learnt, they were met with arguments instead of promises—the mothers were no less eloquent than the fathers in setting forth the grievances of the poor children in being obliged to learn so much besides reading, writing, and summing. The master and mistress were scarcely more successful than the Pupil-teachers as apologists for their routine. By-and-by, it became apparent that even the School Committee was divided into two parties; Mr. Grubbins doubled his annual subscription—took a great interest in the school; there was soon a new master and a new mistress. In the following two years, there were three changes of masters and two changes of mistresses. The Pupil-teachers suffered more by the changes than the school children did. Each master, each mistress, had a different plan of teaching—a different mode of discipline. Books and other school appliances, approved of by one, were objected to by another. Thus matters went on, till party spirit prevailed so far, that another school was established in Poddlington. Both schools are now in debt, neither the one nor the other is well attended. If the master or a Pupil-teacher at the old school—*old* since its rival was opened—offend a boy, he forthwith resolves to go to the new school, and when things are not exactly to his mind there, he goes back to the old school again. The rivalry between the two make admission from the one to the other an easy matter. The teachers at the two schools are on friendly terms with each other, they

recognize the evil of admitting children from each other's schools, but they cannot avoid it, they feel that they are victims to the caprice of the parents and of the children. And all this trouble has arisen from certain crude notions of utilitarianism! There are other *'isms* equally disadvantageous to the progress of popular education, but this is one which is conspicuous amongst those most prevalent.

It is most important that the practical utility of what is taught in an elementary school should be set forth to parents as well as to pupils. No one who has had much experience in elementary schools, will deny that no small amount of trouble in carrying them on effectively, is caused by well-intentioned, but incompetent meddlers. But "a knowledge of the disease is half the cure." A conciliatory spirit does not imply obsequiousness; great points may be ultimately gained, by ceding minor points for a time.

"Opposition gives opinion strength."

We have known instances of zealous teachers allowing their "hobby" to lead them into much unnecessary trouble. One has lost the greater portion of his first class, because he created a jealousy by teaching a few algebra; another has lost her elder girls, because she was obliged by the Ladies' Committee to enforce new and unimportant negotiations as to the style of wearing the hair. Such mistakes afford acceptable opportunities for meddlers, who almost invariably take a utilitarian line of argument—What is the *use* of this? What is the *use* of that? When it is seen that the teacher aims at making the school *practically useful*, opposition decreases surprisingly.

We would impress upon the minds of Pupil-teachers the desirability of fully understanding the utility of what they teach.

SINGULAR LONGEVITY OF THE BRITISH PEERAGE.—It is not a little remarkable that the members of the Peerage who have died since the year commenced, 24 in number, have exactly completed, on the average, the full measure of the allotted span of human life, the "three-score years and ten." They are as follows:—Viscount Arbuthnott, 82; Lord Lonsborough, 54; Viscount Southwell, 83; Viscount Gormanston, 84; Lord Oranmore, 72; Bishop of Rochester, 84; Earl of Longford, 42; Baroness Stratheden, 63; Lord Fitzgerald, 60; Viscount Guillelmo, 27; Baroness Wentworth, 67; Earl of Strafford, 82; Lord Haytesbury, 80; Archbishop of York, 71; Lord Sandys, 68; Lord Elphinstone, 53; Bishop of Worcester, 77; Earl of Lauderdale, 76; Earl of Cawdor, 70; Lord Ffrench, 74; Earl of Leven and Melville, 75; Duke of Richmond, 69; Earl Manvers, 82; Earl of Dundonald, 85. Total of united ages, 1,680 years, which, being divided by 24, gives exactly 70 years to each. This result, it is to be believed, could not be shown among any other class of men in any rank of life.

NOTES OF A LESSON ON CHEMISTRY.

VI.—ORGANIC CHEMISTRY, OR PLANTS AND ANIMALS CONSIDERED CHEMICALLY.

- I. Introduction and General Observations.
- II. The General Composition of Organic Bodies.
- III. Peculiarities of Organic Substances.
 - (a) With regard to their Primary Formation.
 - (b) With regard to their Isomeric Compounds.
- IV. General Method of distinguishing Organic Bodies.
- V. Concluding Remarks.

I.—A plant consists of various parts, such as the root, leaves, and fruit, which are more or less essential for its propagation, and are demonstrated its *organs*. An animal is made up of different parts, such as its limbs, eyes, ears, &c., which are also called its *organs*. Hence the term “organic,” as used in chemistry, must be apparent from the foregoing, and a general definition of organic chemistry may be deduced and given as the following:—“Organic chemistry is that part of the science of chemistry which treats of the chemical composition of the organs of plants and animals, together with their compounds.”

Some organic bodies, by a certain process, change into other bodies; and when such is the case the new bodies formed are classified among the organic substances. When a solution of sugar (an organic substance) is allowed to ferment, it changes into alcohol; and the alcohol in its turn changes into vinegar, unless the fermentation is checked. Hence alcohol and vinegar, although not the produce of any plant or animal, are reckoned among the organic bodies. That department of chemistry which treats of other bodies, not being organic ones or derived from them, is termed *inorganic* chemistry. In a few cases, however, a body may be reckoned both as an organic and inorganic body, as for instance, carbonic acid, which, when produced by animals, is an organic body, but an inorganic one when separated by means of caloric from the other elements composing limestone.

II. Carbon is the principal element found in organic bodies, and oxygen, hydrogen, and nitrogen follow next in order. These four elements, combined in different ways and proportions, together with small quantities of either one of the following elements—phosphorus, magnesium, sulphur, iron, chlorine, potassium, sodium, &c., make up the greater number of organic bodies.

III. Peculiarities of Organic Substances:—

(a.) One of the most general and remarkable peculiarities of organic bodies is, that they can only be naturally formed from their ultimate elements; or, in other words, they are found ready-made, and if chemically reduced to their elements, cannot again be made by any artificial means to combine and form the same body. As an illustration:—Sugar being an organic substance, is found ready-made of carbon, hydrogen, and oxygen, *the two latter being the elements forming water; and by a chemical*

process these three elements can be separated from each other, but no power at present known is able to combine them again, so as to form them into their original substance—sugar.

(b.) Many of the ultimate elements combine with each in exact quantities, and yet produce different organic bodies possessing unlike properties. This strange phenomena, in the first instance, appears unaccountable and impossible; but on consideration, it may be seen that the particles of such bodies may be differently distributed and arranged to each other, and may thus cause the difference in the same manner that the figures 1, 2, 3, and 4, variously arranged, produce the numbers 3124, 4213, 2341, 1432, &c. It is apparent that the numerical value of each of the foregoing numbers is not the same, although each consists of the same figures, the difference arising from the way in which the same figures are placed to each other.

The fragrant oils which are obtained from plants by distillation are composed of carbon and hydrogen, and the majority of them are composed of these two elements combined together in exactly the same quantities. Hence the oil of roses, lemons, orange, rosemary, lavender, turpentine, &c., are all composed of $88\frac{1}{4}$ parts of carbon combined with $11\frac{3}{4}$ parts of hydrogen. One hundred pounds of fresh rose leaves will not quite produce one ounce of oil by distillation. Oils obtained in this manner from plants are called volatile oils, because they quickly evaporate if exposed to the air. Camphors, resins, balsams, &c., are also composed chiefly of carbon and hydrogen, but contain a small quantity of nitrogen, and thus differ from the volatile oils. Gum and sugar are composed of exactly the same elements.

Bodies like the volatile oils, gum, sugar, &c., are termed *Isomeric bodies*, from two Greek words meaning "equal part." By mixing an acid with *fusel oil*, and distilling the result, a compound is formed which resembles the taste of some fruit according to the acid used. Thus, nitric acid gives the flavour of the orange, acetic acid the flavour of the pear, valerianic acid the flavour of the apple, &c. Although fusel oil is a deadly poison by itself, the compounds which it helps to make are perfectly harmless when used in proper quantities, and they are largely used by confectioners for flavouring their so-called "fruit drops."

IV. It has been before stated that carbon is the chief element composing organic bodies, and the consequence is, that if they are heated in retorts or test-tubes, the elements separate from each other, and either make their escape or are burnt, with the exception of the excess of carbon, which remains unburnt, and would be commonly known as charcoal. Every substance which chars when heat is applied to it, may be classified among the organic bodies.

V. This being the concluding lesson on chemistry, I beg to offer the following remarks:—

(1.) It will be noticed that the foregoing notes are drawn up in a progressive form, but at the same time it has been contrived, as far as possible, that each lesson should be complete in itself, so as to enable any one of the course to be thoroughly understood independent of the others.

(2.) The heads and sub-heads of the lesson have been, as far as

possible, logically arranged, and have thus avoided the giving of directions to the teacher.

(3.) That each lesson contains enough subject matter for at least two oral lessons each occupying not more than three-quarters of an hour.

(4.) To facilitate the above, it will be found that each lesson may be conveniently divided into two or more parts, at the discretion of the teacher.

CHARLES F. REDMAN.

[*Eratum*.—P. 256, (a), 9th line, for "was" read "were."]

ESSAY ON ORATORY.

THE art of oratory cannot be too highly appreciated.

It is the means by which the feelings and passions of men are raised and excited, and (by which) the aspiring soul stirred up to do great and noble deeds.

Its power is almost boundless.

From the rude and uncultivated eloquence of a Tyler, or a Cade, to the mighty and burning oratory of a Demosthenes or a Cicero, we can mark its ever-prevailing influence.

And what is oratory? Is it the offspring of nature or of art? Is that incomparable gift to be obtained by each and all who strive to attain it? Is it in the power of the many to grasp that mighty weapon—to wield the sword of oratorical might? or is it only to the few to whom this might is vouchsafed—to whom this talent is given—is it of nature? We think so.

Many say that the orator is not, with the poet, the son of nature; that it is not to *her* he owes that eloquence which captivates the mind of man, and impels or restrains his passions.

They say he is the offspring of art; they deem that it is by art he has raised himself to that proud height; that nature is but a secondary consideration; and that, even had its aid been altogether wanting, still would he, by artificial means, have been enabled to attain his high position. We judge otherwise.

We may, by strict and unwearied attention to our subject, make great progress in mathematics or any of its kindred subjects, and perhaps in time rival or even excel its greatest professors; but who will say the same of the poet, or the orator.

Is it for art to bestow on them the elevated thought—the noble sentiment, the graceful idea? Is not this rather the work and gift of nature?

When we see around us in this our day, or read of in the bygone ages, men who, labouring under disadvantages the most oppressive and disheartening, have yet overcome them, and eventually shone forth as lights among their fellow-men—as ornaments to their country and people—as men of might and genius; when, I say, we see such men as these, are we not constrained to say, these were nature's children;—men, who, being gifted by her with the germs of a future greatness, would, placed in the most unfavourable situation, have had those germs brought forth and ripened into the *most luxuriant growth*?

Many of those who hold the theory of art making the orator, and not nature, cite as example the celebrated Demosthenes.

They tell us the well-known facts of his imperfect utterance, of his almost incessant efforts to overcome that defect, of his varied and astonishing arts to obtain that height of eloquence and manner to which he hoped to attain,—and then they triumphantly ask, was not this art gaining the ascendancy over the imperfections of nature—was it not victorious—was it not art that made Demosthenes an orator?

Before proceeding to answer this question, let us see if these acts of the great orator may not, after a little careful consideration, admit of other deductions than those which the friends of art have drawn from them.

Think you, in all the efforts of Demosthenes to remedy the defects of nature, and his success in those endeavours, was it not nature herself striving to assert her sway, and maintain her authority over the mind of the man, despite the obstacles which sought to obstruct her way. Was not that mighty oratorical power, which made the Greek rush to battle and the oppressed to victory, thus early implanted in his breast, and waiting only the removal of these obstructions to burst forth in that enthralling and heart-stirring eloquence, which afterwards rendered his name so famous?

And would it have been so had not nature implanted that mighty power within him? Would his harangues have been so powerful, his Philippics so keen, his orations so wonderful?

Not then would the sea-side studies, the modulated voice, or the practised posture have made the orator; not then would the mighty multitude have listened to the spirit-rousing orations of the great Demosthenes! He might in time have become eloquent, but he would never have been an orator.

Let us now, having considered the relative influences of nature and art, in conducting toward or producing it, for a few moments dwell on the use and beauty of oratory.

The Earl of Chesterfield, writing on this subject, remarks that “the business of oratory is *to persuade*,” and perhaps it would scarcely have been possible to have given a more accurate or comprehensive definition of it. It is in its most literal sense “to persuade” that oratory is used.

Does not the orator exert his utmost to excite your feelings and command your passions; to incite your admiration, or to fill you with dislike; to raise in your mind emotions of pleasure, or sentiments of pain; does he not do all this in order to impress you with the truth of the arguments he is advancing; in other words, to *persuade* you he is right?

And is not oratory a noble thing; is there not something noble in the idea of a man standing up before his fellow-men, and gaining an influence over the minds and souls of men, greater than that of a conqueror over the bodies of the subdued?

How do the words of eloquence fill the mind with noble thoughts, and prompt to noble deeds! How, in the camp, the senate, and the place of worship, where the voice of nature’s orators has been heard, have men been stirred up to brave and holy actions! Nor does the work of the orator cease here.

In after ages, when the man has ceased to dwell with his fellow-men, when that voice which once won from them thunders of applause is silent for ever, and nought of him remains but his name and remembrance, then may his works still bear tribute to his memory, and stir up the hearts of men even as his voice of old.

Thus is it with the orator. Still the slight snatches of the oratory of Chatham win our regard, and the genius of Burke our admiration.

And shall we say, then, that oratory is useless—that the orator plays but a slight part in the theatre of life? No! let us endeavour rather so near to approach him as the benefits bestowed on us by nature will permit.

Nor let us forget that the highest, and best, and noblest use to which oratory can be applied is for the advancement of good, the overthrow of evil, and the hastening of the kingdom of the Mighty One.

Happy indeed will be *his* lot, who has thus used his most powerful talent; who, as the orator and the Christian, has thus endeavoured to excite the feelings and raise the passions of men to the great twofold object—the good of man, and the glory of God!

THOMAS DENHAM.

MNEMOCHRONICS.

1. In 454, the Vandals made themselves masters of Malta. The Vandal usually appeared in the character of a *ROVER*.

2. In 1640, the Long Parliament was first opened it *APPEARS*.

3. In 1714, Queen Anne died, and George I. succeeded as king of the English, including every English *MILLER*.

4. In 1530, Malta was given to the knights of St. John by Charles V., his favour to *EVINCE*.

5. In 1154, Henry II. succeeded to the throne of England, and soon afterwards became noted as "Fair Rosamond's" *LOVER*.

6. In 1172, Henry II. conquered Ireland, and England's permanent union with it in the distance *LOOMED*.

7. In 1615, Richard Baxter was born in Shropshire. He afterwards caused many persons to *BELIEVE*.

8. In 1502, St. Helena was discovered by Juan de Nova Castella. He was the first human being who paid it a *VISIT*.

9. In 1763, Prince Edward's Island was finally annexed to the province of Nova Scotia. This event did not create amongst the inhabitants either rebellion or *MOBBING*.

10. In 1327, Edward III. acceded to the crown, and reigned a *LONG TIME*.

11. In 1346, the battle of Nevil's Cross was gained by the English under Queen Philippa, who was attired in a *LONG ROBE*.

12. In 827, Egbert became first sole monarch of England, and did much to provide each of his subjects with a *GOOD HOME*.

13. In 1704, the battle of Blenheim was fought. The enemy's numerous losses in this contest caused them much *MISERY*.

14. In 1603, Queen Elizabeth died; not, however, of *POLSON*.

15. In 274, silk was first brought from India. Silk often hides a *moral TUMOUR*.

16. In 1264, the Commons of England were first represented in Parliament, and the people's chamber began its rapid rise *TO POWER*.

17. In 1453, Constantinople was taken by the Turks, and the eastern empire was finally *RIVEN*.

18. In 1817, Martin Luther began the Reformation by preaching the doctrines of the sacred *VOLUME*.

19. In 1582, the Calendar was reformed by Pope Gregory, who taught men to *LOVE GOD*.

20. In 1776, the United States of North America declared themselves independent. On the anniversary of this great event none of the Americans *MAY MOPE*.

21. In 1840, Queen Victoria married Prince Albert, of Saxe Coburg Gotha ;

With him she shares
Her joys and CARES.

APOLLO.

PERSPECTIVE SIMPLIFIED,
FOR PUPIL-TEACHERS AND OTHERS PREPARING FOR THE
GOVERNMENT EXAMINATIONS.

BY R. H. TURNER, HEAD MASTER OF THE CRANMER SCHOOLS, LIVERPOOL.

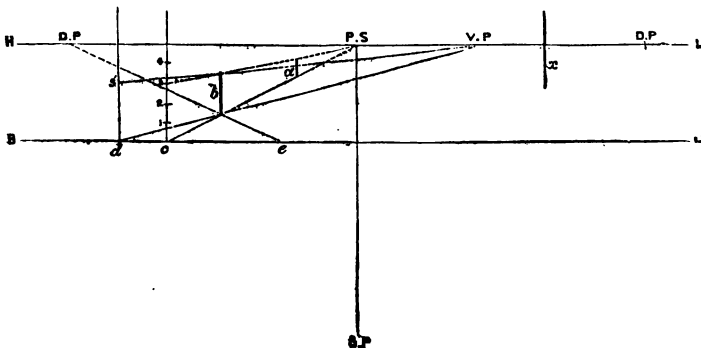
LESSON VIII.

THE PERSPECTIVE OF VERTICAL LINES.

IN LESSON V., *Exercise 5* and *Exercise 6*, the method of finding the height of a point, in a given perspective perpendicular line, is shown, and of putting into perspective a point above the ground plane. It will be seen, at once, that the same method may be applied to the perspective of perpendicular lines. The points given and required in Exercises 5 and 6 may be considered as the vertical extremities of *lines* resting on the ground. The perspective and height of any perpendicular lines may be found in the same way. A few remarks, therefore, to prevent your making mistakes, will be all that is necessary on the perspective of vertical lines. The following diagram will help us :—

EXERCISE IX.

PROBLEM XI.



The greater the distance of an object from the eye the less its apparent size. With this fact you will be familiar. That long street with its row of lamps—how small those in the far distance look, compared with those near us. Or the extensive avenue of trees—how diminutive the trees seem to be at the other end. And hundreds of other things you have seen illustrating this fact. Don't forget it when you take your pencil in hand. Lines of equal length originally, must vary in their length, as their distance within the picture varies. See Exercise 9. Line *cps* is a ground line; line *3ps* is a line parallel to *cps* and vertically above it, both proceeding from the perpendicular on point *c*, and 3 being three feet above *c*. Lines *a* and *b* are between these two lines, touching both. These two perpendiculars are 3 feet high. Line *a* appears less than *b* because it is further within the picture. Any other perpendiculars between these two lines *cps* and *3ps* would be 3 feet in height, whether nearer the picture plane or more distant even than *a*.

Again, don't forget Rule 7. Why not apply your scale to line *b* or line *a*? Because they are perspective lines, not original or geometric lines. Take care that you do not find yourself measuring a perspective line as though it were a geometric line. *All vertical measurements must be taken on a line that stands on the base line.* And now take care that the line of measurement stands in the right place. Suppose line *ps3* be produced until it meets the perpendicular on *d*. Wouldn't that give the height of *a* and *b*? No. Why? Now find out the reason. Take your board on the table or any horizontal surface, and with a few straight sticks as pins try it, and you will soon make it out, if you do not see it without these means. This matter is important enough to be made into a rule.

RULE 9. *Every vertical measuring line must find its seat in a perpendicular resting on the seat of the ground line, which is parallel to it.* As *ps3* and *psc* and the perpendicular on *c*, or as *vp3'* and *vpd* and the perpendicular on *d*.

Again, any point in the horizontal line may be taken as the vanishing point of the lines used in measuring perpendiculars. For instance, in Exercise 9, lines drawn from *vp* through the extremities of the perspective perpendicular *b* to the geometric perpendicular on *d* in the Base Line will give the height of *b* 3 feet, as on perpendicular *c*. And if from any other point in *HL* a line be drawn through the ground extremity of *b* to the Base Line, and a perpendicular raised on the point of intersection in the Base Line, the seat of the ground line, this perpendicular measuring line will give the same height as *c* and *d*, if to it a vertical measuring line be drawn from the vanishing point in *HL*, through the vertical extremity of *b*.

As the line from *DP*, running through the base of *b*—if a perpendicular were erected on *e*, the seat of the line from *DP*, and then a line from *DP* through the top of *b* to the perpendicular, the same height would be obtained.

And here is another matter, of which you may now take note. The distance from *c* to *e* shows the distance within the picture of *b*, because *DP* is the measuring point of all lines vanishing in *rs*; but the distance *de* is not the distance within of *b*, because *DP* is not the proper measuring point. The measuring point for *vp* is not in this diagram. How to find

it will be explained in a future lesson. But take care not to use the distance point as a measuring point for any other vanishing point than the point of sight. Refer to *Rule 8* in Lesson IV., and fix it again upon your mind, that "distance within the picture," or "distance from the picture plane," is to be measured only on a line that vanishes in the point of sight, and measured only by a line from the distance point.

But suppose the perpendicular extended *above* the Horizontal Line, would there then be no difference as to the points to which the vertical measuring lines were to be drawn? None at all. The measuring lines would *descend* instead of *ascend*, as they do when below the Horizontal Line. The vanishing points remain the same.

And now take another thought, before concluding this lesson. *All lines proceeding from the Base Line and vanishing in the Horizontal Line are ground lines.* That is, they represent lines running on the ground. Then those lines which proceed from any perpendicular, and vanish in the Horizontal Line, represent lines *above the ground*. Understand this clearly; it is a simple matter. But some have confused themselves and spoiled their work through a want of care at first, even in this.

Work out the following problems carefully:—

Problem 11.—Find the position of the perpendicular x , and its height.

Problem 12.—Put in perspective a perpendicular line, 2 feet further from the picture than x , and which shall *appear* to be the same height; then tell its original height.

Problem 13.—Put in perspective a perpendicular line, 4 feet to the left of the centre of vision, 3 feet within the picture, and 6 feet high. Across this place a horizontal line 3 feet long, $1\frac{1}{2}$ feet from the top of the perpendicular, and parallel to the plane of the picture. The centre of the horizontal line to rest on the perpendicular.

Problem 14.—On a line vanishing in the "principal vanishing point," find two points 3 feet distant from each other; the nearest to be 3 feet within the picture and 4 feet from the Line of Direction. Find another point on the same line equally distant from both the former points. On this centre point erect a perpendicular 6 feet high, join the top of this perpendicular and the points on the ground line; then find the centre point of the perpendicular, and through this point draw a line parallel to the ground line and touching the lines from the top of the perpendicular. You will then have a figure of the letter *A* in perspective, standing on a line at right angles to the picture. Take care to draw the last line—the cross line of the *A*—to the "point of sight." Being parallel to the ground line it will vanish in the same point.

In our next we will explain the method of finding the perspective of lines standing in an *oblique* position to the plane of the picture.

[We are glad to find by letters sent to the author, that these lessons are much appreciated, and are of greater service to some of our readers than any other lessons on the subject they had previously met with.—Ed. P. T.]

Six Paints, Palette, and Brush, complete for 6d., post-free for Seven Stamps. Surely, every one of our readers who wants to spend a pleasant and agreeable hour during the long winter evenings, cannot do better than order this useful sixpennyworth. Mr. Beal, of Grove Terrace, West Ham, Essex, will be glad to send a specimen anywhere, by post, for Seven Stamps.

WARS OF THE ROSES.

BATTLE.	DATE.	RESULT.
St. Alban's	May 22nd, 1455 ..	Yorkists successful—the Duke of Somerset slain and the king taken prisoner.
Bloreheath	Sept. 23rd, 1459 ..	In favour of the Yorkists.
Northampton	July 10th, 1460 ..	Queen's forces defeated, and the king, who had joined her, taken prisoner.
Wakefield	Dec. 31st, 1460 ..	Richard, Duke of York, slain.
Mortimer's Cross ..	Feb. 2nd, 1461 ..	Yorkists successful, and king taken prisoner.
2nd Battle, of St. Alban's .. }	Feb. 17th, 1461 {	Yorkists defeated, and the king released.
Towton	March 29th, 1461 ..	Yorkists successful.
Hedgley Moor	April 25th, 1464 ..	Yorkists successful.
Hexham	May 15th, 1464 ..	Yorkists successful.
Banbury	1469	Earl of Warwick defeats the forces of Edward IV.
Barnet	April 14th, 1471 ..	Lancastrians defeated, and the Earl of Warwick slain.
Tewkesbury	May 4th, 1471 ..	Lancastrians defeated—Edward slain.
Bosworth Field ..	August 22nd, 1485	Richard III. slain by the Earl of Richmond. This ends the Wars of the Roses.

JUGURTHE.

The following is from a MS. in the British Museum.—ED.

THE names of the kinges, princes, dukes, marques, earles, and barones, slaine in the tyme of the variance betweene the houses of Lancaster and Yorke for the crowne of Englande, during the space of fifty-fower yeares:—

KINGES.—Henry 6, slaine in the Tower. Edward 5, slaine in the same. Richard 3, at Bosworth Field.

DUKES.—Of Gloucester, at Burye. Of Suffolke, on the sea. Of Sommersett, at St. Alban's. Of Yorke, at Wakefield. Of Sommersett, at Hexham. Of Sommersett, at Tewkesburye. Of Buckingham, at Northampton. Of Excester (*Exeter*), upon the sea. Of Clarence, in the Tower. Of Buckingham, at Salisbury. Of Yorke, in the Tower. Of Norff (*Norfolk*), at Bosworth Field.

MARQUES.—The Marques Montague, at Barnet.

EARLES.—Of Northumberland, at St. Alban's. Of Oxeford, at ye Tower-hill. Of Wiltshier, at Mortimer's Cross. Of Devonshier, at Yorke. Of Northumberland, at Taunton-fries. Of Devonshier, at Bridgewater. Of Rivers, at Coventrie. Of Rivers, at Pomfrett. Of Devonshier, at Tewkesburye. Of Warwicke, at Barnett-fries. Of Worcester, at ye Tower-hille. Of Salisbury, at Pomfrett. Of Pembroke, at Northampton. Of Rutland, at Wakefield. Of Lincolne, at Stokefield. Of Warwicke, at ye Tower-hille. Of Shrewsburye, at Northampton.

VISCOUNTE.—Viscounte Beaumont, at Northampton.

BARONS.—The Lo. St. John, at Tewkesburye. Lo. Clifford, at St. Alban's. Lo. Clifford, at Taunton-fries. Lo. Fitzwater, at Fferribrigge. Lo. Welles, at Taunton-fries. Lo. Egremont, at Northampton. Lo. Lovell, at Stoke-field. Lo. Rosse, at Hexham. Lo. Hungerford, at Salisbury. Lo. Wenlock, at Tewkesburye. Lo. Audley, at Blownheathe. Lo. Wells, at Lincolne. Lo. Wyloughbie, at Staunfries. Lo. Rugemond Grey, at Leicester. Lo. Stales, at London. Lo. Dacres, at Taunton-fries. Lo. Audley, at the Tower-hill. Lo. Latimer, at Banbury. Lo. Harbinger, in the Tower. Lo. Fitzwater, at Calys. Lo. Bonhill, at St. Alban's. Lo. Cromwell, at Barnett. Lo. Saye, at Barnett. Lo. Fferrys, at Bosworth Field.

TOTAL.—3 kinges, 12 dukes, 1 marques, 17 earles, 1 viscounte, and 24 barons.

Notes and Queries.

. We wish it to be distinctly understood that we do not guarantee that all the *notes, replies, &c.*, are correct. Criticisms on lessons, parsing, &c., are requested. The Subscribers to the "Pupil-Teacher" should consider themselves as members of a Mutual Improvement Society, and regard our periodical as their medium of intercommunication.

Our Notes and Queries are of three classes:—

- I.—Mathematical.
- II.—Philological, including Grammar, Paraphrasing, Composition, &c.
- III.—Miscellaneous, including all questions on subjects of Study or Method. Questions of Discipline or Management, affecting Pupil-teachers, are discussed in the EDITOR'S COUNCIL.

In sending Answers, merely refer to the number and page thus:—"Mathem. No. —, p. —;" "Philol. No. —, p. —;" "Miscell. No. —, p. —."

N.B.—The number refers to the query, not to the "Pupil-Teacher."

PHILOLOGICAL PARSING.

12. (p. 211).

(Eight best papers arranged by the Editor).

1. Aaron Smith; 2. Robin Hood; 3. Benedict; 4. J. N. Hobbs; 5. Apollo; 6. Sarai; 7. Forward; 8. J. Hellen; *. *all*.
- Both*, adj. qual. *men*, 1, 2, 6; indef. adj. pro. 4, 5, 7, 8; num. adj. 3.
- Like*, adv. mod. *speak*, 2, 3, 4, 5, 6, 8; adj. qual. *we*, 1, 7.
- Pray*, v. reg. intrans. indef. pres. agree with *I* unders. 1, 2, 3, 5, 6, 7, 8; imp. 1, 4.
- To*, adv. mod. *prove*, 1, 2, 4, 6, 8; (*to be* unders.) 3; adj. pro. qual. *men* unders. 5, 7.
- How*, adv. mod. *make*, 1, 2, 3, 4, 5, 8; *to know*, 6, 7.
- To make*, v. trans. infin. *; gov. *answer*, 1, 2; gov. by *know*, 5, 6, 7.
- Ye*, pro. pers. 2nd plu. mas. obj. (*to* unders.) *.
- Near*, prep. gov. *honour*, 1, 3; adj. qual. *point*, 2, 4, 7; adv. of place, 5, 6, 8.
- Honour*, n. com. 1, 2, 6, 7; abs. 3, 4, 5, 8; sing. neu. obj. (*to* unders.) *.

The following twenty-five papers are meritorious:—E. J. Paul, W. A. Rothwell, J. Lightfoot, Silex, T. E. Jones, Alphonso, J. Overend, J. French, One-and-all, Bretwalda, E. B. Loynd, Quentin, J. Fenton, Annie (Margate), Ichabod, T. J. T., J. H. C., El-dio-tomas, J. Murray, Ellen Davies, Orsini, Katharine, Mary Ritchie, E. S. A. M., T. L. Simpson.

14. (p. 244.)

A.—Supplying the ellipses, the passage becomes:—But at the Battle of Culloden (which is) near (to) Inverness, (which was fought on) April 16th, &c.

Near, adv. of place, mod. *is* unders.

Inverness, n. prop. sing neu. obj. (*to* unders.)

April, n. prop. sing. neu. obj. (*on* unders.)

APOLLO.

B.—*Near*, prep. shows relation between Inverness and Culloden.

Inverness, noun (*name of some place*), pro. sing. (*signifies one*) neu.

April, noun (*name*) pro. sing. (*one*) neu. (*neither male nor female*).

ICHABOD.

Also:—Aaron Smith, J. Fenton, Ecolier, A. Kerr, One-and-all, W. H. H., Ellen Davies.

MISCELLANEOUS ANSWERS.

10. (p. 42).

α .—We will endeavour to explain, in as simple a manner as possible, how *we* have succeeded in obtaining good writing—writing that has been pronounced by Her Majesty's Inspectors, indeed, to be "very good." The necessary preliminaries are, of course, good paper, pen, and ink, convenient desks, and plenty of room. These being provided, the next requisite seems to be good, bold copies, *free from flourishes*, which the pupil must be taught carefully to imitate. It will be necessary, at the first, to caution him—and if need be, compel him—to proceed very slowly, as on this depends, mainly, all good writing. The teacher should devote the whole of his attention to the classes while writing, and be exceedingly particular and minute in pointing out any deviation from the copy, either in slope, form, or stroke.

Uniformity, too, should be rigidly insisted on, both with respect to space on the line, and the lengths of the "tops" and "bottoms," as this will make even moderate writing appear extremely respectable. We do not attach very great importance to any particular mode of holding the pen, so long as it admits of a free and natural motion, and the position at the desk is uncramped and easy. We would recommend the use of books with engraved head lines—those of John Heywood are very good—and, however much the pedant may smile, discard the black board altogether as being an incumbrance rather than otherwise in the art of teaching writing. Finally, we would say to Thomas Gay, as we are continually saying to our pupils, be patient and take time. "Slow—slow—slow" is our perpetual watchword.

AARON SMITH.

β .—*Posture of the Body*.—An erect and easy attitude, a bending posture promoting indigestion. Right elbow to be extended a little; right arm to rest near the elbow; avoid pressure upon the wrist, this often being an obstacle to freedom in writing. The third and fourth fingers to be separated from the first and second; they are not to be extended too stiffly; let the thumb be slightly bent towards the first joint of the fore-finger. The left arm to rest on a level with the line written.

Holding the Pen.—The pen should be held in the right hand, between the thumb and the first and second fingers. The pen must be held not far from the nib, and not very tightly. The upper end of the pen should point a little to the right of the shoulder, and in no case let it fall below the knuckle joint of the forefinger. The handwriting should be round, regular, and upright, of an even height, the same thickness of stroke, and moderately short loops and tails. Rapid writing should not be attempted, till able to write well, slowly. We are all aware that the copying clerk's handwriting is more legible than the lady's, the former being round, and the latter angular, therefore it is evident to all which kind of writing ought to be in general use. "The clerk's writing is that style which can be taught to a child in the shortest space of time, simply because it is the most natural. The blade of grass, the leaf, the tree, present us with specimens of curved lines; well-defined right lines are artificial."

Clio.

γ .—I. *Posture of the Body*.

1. The body should be erect, slightly bent forward, but not pressing against the desk or table.
2. The left side must incline towards the desk.
3. The legs ought to be placed obliquely with the slant of the writing.
4. Extended horizontally, the left arm supports the weight of the body and likewise renders the paper firm.
5. The right arm must rest a little below the elbow.
6. No weight should be borne by the wrist, the hand being supported by the fourth finger.
7. In executing the writing, the elbow moves parallel with the wrist.

II.—*Position of Paper.*

1. A little to the right of the penman.
2. Parallel with the edge of the desk or table.
3. Neither too near nor too distant from the writer.

III.—*Instructions relative to the Pen.*

1. The two fore-fingers and thumb hold and guide the pen; the fingers are outstretched, but the thumb slightly curved, so as to be opposite the first joint of the first finger.
2. Below the open part of the pen the fingers ought not to descend.
3. Hold the pen easily, neither too loose nor too stiff.
4. Allow each side of the nib to press equally upon the paper.
5. When writing, the pen points direct over the shoulders.
6. The hand must glide evenly and regularly over the surface of the paper without changing its position.

IV.—*Requisites to good writing.*(a). *Regularity.*

1. All the letters must incline to the left, or in the same direction.
2. Uniformity should exist throughout.
3. The letters must be equi-distant.
4. The words must be equi-distant.
5. A striking contrast should be strongly perceptible between the upstrokes and downstrokes.
6. Letters below the line should be of equal depth.

(b). *Care.*

1. After carefully scrutinizing his work, the writer should exert himself to improve defects.
2. The paper should be preserved in a state of cleanliness, therefore the pen should not be surcharged with ink.
3. Cultivate grace and neatness, and endeavour to acquire a light, quick, steady hand.

"THE LAST ROSE OF SUMMER."

The following deserve notice:—Urban, Spes, Rose F., E. S. A. M., Ellen Davies.

18. (p. 211.)

α.—*Faith* is that conviction of the mind of the truth and reality of God's revelation to man, by which the latter is led not only to a sense, but also to the performance of his duty to his Maker. *Assent*, on the other hand, is that conviction, which is not productive of works, but yet admits the same revelation as true. St. James says, "that the devils have this assent" (James ii. 19).

PHARAMOND.

β.—*Assent* is more a matter of reason, faith of feeling: the former implies that the head is convinced, the latter that the soul is won. *Assent* gives a sort of general acknowledgment to the truth of the doctrine of the atonement for the sins of mankind, by the sacrifice of the death of Christ. *Faith* brings home the blessed assurance that He died for us.

AARON SMITH.

γ.—*Assent* implies a yielding of the will; faith a conviction of the mind. *Assent* is the outward form; faith the inward reality. The outward form exists without the inward reality; but the inward reality always comprehends the outward form. In a religious point of view, a man may give his *assent* to a "*doctrine*" without his really "*believing*," or having faith in it. Thus he may assent to the "Divine authority of the Bible," without knowing much of its contents, or being able to give one proof in demonstration—simply from custom, and because he has been taught so. Not so he that has faith in the doctrine. He has obtained his faith by diligent search and comparisons, and is now firmly persuaded in his own mind of the truth of the doctrine, and ready to give a reason why he is so persuaded. *Assent* admits the truth of a doctrine as it stands; faith results from a conviction—after diligent inquiry—that the particulars of the doctrine are true. In some doctrines of the Christian religion, the mind

is unable to grasp and fully comprehend the whole of the particulars involved; as for instance, the condition of the saints in heaven, or the ETERNITY of JEHOVAH, or the doctrine of Trinity in Unity. Yet even here faith has a place, the groundwork of faith being—

1. That the things revealed be not *contrary* to, though they may be *above*, natural reason.

2. That we believe fully in the unchangeableness of God, and thus raise the revealer above all suspicion of deceiving us.

ROBERT STRATTON.

The following deserve notice:—Ellen Davies, Jane Wright, William Henry, Oxford Blue, Orsini, Ellen Ritchie, Mona, E. S. H. M., Lucretia.

Recreative Exercises.

XXIII.—The *initials* will give a village in Essex; the *finals* will name a celebrated British hero who was born there.

A mountain chain bounding the great central table land of Asia.

The birthplace of the "Prince of Painters."

An important town in the State of New York.

A river in India.

A Belgian province.

A mountain chain in Asia.

A village in Sardinia, the scene of two great battles.

A town in Somersetshire.

A town in Yorkshire.

A Spanish Cape.

A town in Herefordshire.

One of the Ionian Islands.

A Scotch county.

ANGLO-SAXON.

XXIV.—The *initials* will give a seaport town in Ireland; the *finals* will give a group of islands in the Pacific Ocean.

An English Archbishop who suffered martyrdom.

A town in Europe where a celebrated congress was held.

A city in Italy, and a manufacturing town in European Tartary.

An Italian Astronomer.

A strong town of Russia.

The juice of a tree growing in Mexico.

A town of Asiatic Russia.

A canton in Switzerland.

A people of Elis in Pelopenesis.

The birthplace of Archbishop Laud.

A district of British India.

A town in Sweden celebrated for its university, and the God of love in Heathen Mythology.

A town in Bambarra.

A. A. STUART.

ANSWERS.

XIX. (a).—Across Siberia's dreary, marshy plains,
Its current th' little *Amga* just sustains;
In smoky *Manchester*, all know quite well,
King Cotton with his train vouchsafes to dwell;
From whales fine *Spermaceti* oil we get;
High in the North, horned *Taurus* maineth yet;
Historian's name who lived with Charlemagne,
Though found with "E," and "T" hath teaz'd me long,
Yet letters "E" and "T" will *Egbert* give,
Who cross'd the sea with Charlemagne to live,
Not Mary's royal love, or tears of woe,
Avail'd to save poor *David Rizzio*,
In town of *Dort*, Arminius was denounc'd,
And heretics both he and his pronounced.

In Switzerland, the home of Guillaume Tell,
 There is a fair canton, called *Appenzell*.
 In olden times, so saith mytholgy,
 Men had a goddess called *Mnemosyne*.
 Initials of these words give *Amsterdam*,
 And finals spelt, will *Aristotle* name.

ROBERT STRATTON.

(β.)—In wild magnificence *Angara's* stream
 Flows slowly through the Asian forests wide ;
 And *Manchester's* old spires in beauty gleam,
 Upon proud *Irwell's* ever rolling tide.
 The *Spermaceti* whale skims swiftly o'er
 The foaming bosom of the Southern main ;
 And in the silent night, we love to soar
 Where *Taurus* glitters with his brilliant train.
 The famed *Eginhart's* mighty learning shed
 Its radiant light through *Charlemagne's* regal halls.
 By *Darnley's* dagger gentle *Rizzio* bled,
 His shrieks were heard beyond the castle walls.
 And *Hugo Grotius* found a last long home
 In *Delft*, where he had spent his youthful hours.
 O'er *Appenzell's* steep rocks the chamois roam,
 Her meadows sparkle with a thousand flowers.
 Still heavenly *Mnemosyne* we adore,
 As did the warlike Greeks in days of yore.
 Trace these initials—*Amsterdam*,
 A town of wealth and fame ;
 The finals—and at once appears
 Great *Aristotle's* name.

H. M. MANSELL.

(γ.)—AmgA—ManchesteR—SpermacetI—TauruS—EginharT—RizziO—DorT
 or DelfT—AppenzellI—MnemosynE.

*Amsterdam.**Aristotle.*

JEAN C.

Also : Abercrombie, E. S. A. M., Ellen Davies, G. Mapp, W. J. Harrison, T. Denham, Lionel, R. Turner, A. A. Stuart, Bretwalda, T. J. C., Oxoniensis, Benedict, Orsini, Taceo, J. N. Hobbs, J. Nixon, Jane Wright, Rose H.

XX.—The *Spectator*, a paper of wit profound ;
 The *Tintos* Hills, in Lanarkshire found ;
Egypt, Rome's storehouse of old.
Paris, the city of fashion and pride ;
Hardicanute, who of gluttony died ;
Elizabeth, queen of a kingdom wide,
 And a nation brave and bold.
Noric, an Austrian Alpine range ;
Shusan, a city—how sad its change,
 Since *Daniel* his mission bore.
Ottawa, river of *Canada* fair,
 Whose waves to the tide of the *Lawrence* repair ;
Newnham, a cape all rocky and bare,
 On *America's* north-east shore.

The initials give us *Stephenson*,
 A man of greatest mind ;
 The finals upward read, and then
 You *Manchester* will find.

THOMAS DENHAM.

(δ.)—SpectatoR—TintoE—EgyPT—PariS—HardicanuteE—ElizabethH—NoriC
 ShusaN—OttawaA—NewnhaM.

*Stephenson.**Manchester.*

OXONIENSIS.

Also : Robert Stratton, Orsini, S. A. M., Ellen Davies, Matilda Green, Jane Morris, A Young Student, The first Trial, H. S. S., Ellen R., *Sophia*, and others.

Correspondence.

To the Editor of the PUPIL-TEACHER.

GREATEST COMMON MEASURE.

Sir,—Perhaps the following short methods (1) of finding the greatest common measure, (2) of finding cube root, may be of service to some of your readers; if you think so, you will oblige me by publishing it.

(1). Find the greatest common measure of 3575 and 125,455.

Quot.			Quot.
10	3575	125455	35
5	275	18205	
	...	.. 330	1
		55	
	55=	G. C. M.	

Explanation.—3575 being the smallest number, I use it as a divisor, and say that 3575 is contained 3 times in 125,455, I place 3 in the quot. on the right; I then say 3 times 5 are 15, 15 from 15, 0, set down 0 and carry 1; 3 times 7 are 21, and 1 are 22, 22 from 24, 2, set down 2 and carry 2; 3 times 5 are 15 and 2 are 17, 17 from 25, 8, set down 8 and carry 2; 3 times 3 are 9, and 2 are 11, 11 from 12, 1, set down 1, bring down the 5, and I have 18205. I find that 3575 is contained 5 times in 18205. I put 5 in quot. on right by side of 3 (making 35 in the first quot.

on the right). I then say 5 times 5 are 25, 25 from 25, 0, set down 0 and carry 2; 5 times 7 are 35, and 2 are 37, 37 from 40, 3; 5 times 5 are 25, and 4 are 29, 29 from 32, 3, set down 3 and carry 3; 5 times 3 are 15, and 3 are 18, 18 from 18, 0. I have now 330 remainder, which I use as divisor to 3575, which is contained 10 times in 3575, and leaves 275 as remainder. I then use 275 as divisor to 330, and have 55 as remainder, which is contained 5 times in 275, therefore 55 = greatest common measure. *Ans.*

2nd. Extract the cube root of 80677568161.

80677568161 (4321 64		
123 = 4 × 30 + 3	4 ³ × 300 = 4800	16677
123 × 3	369	
	5169 × 3	= 15507
43 × 30 + 2	43 ³ × 300 = 554700	1170568
1292	= 2584	
1292 × 2	557284 × 2	= 1114568
	432 ³ × 300 = 55987200	56000161
432 × 30 + 1	= 12961	
= 12961 × 1	56000161 × 1	= 56000161

The above is COLENSO'S.

I follow the same plan with this exception, instead of squaring 43 and multiplying by 300, I have 5169 already found; to this I add 369 already found, and the square of 3, to which I affix 00, viz., thus:—

$$\begin{array}{r} 5169 \\ 369 \\ 9 \\ \hline 554700 \\ \hline \hline \end{array}$$

And instead of squaring 432 and $\times 300$, I take

$$\begin{array}{r} 55470^* \\ 557284 \text{ already found.} \\ 2584 \text{ do. do.} \\ 4 \text{ square of 2.} \\ \hline 55987200 \end{array}$$

MODUS OPERANDI.

80677568161 (4321 64		
$4 \times 30 + 3$ = 123	$4^2 \times 300$ = 4800*	16677
123 \times	3 = 369✓	
	5169✓ $\times 3$	= 15507
	9✓	1170568
$43 \times 30 + 2$ = 1292 $\times 2$	554700*	
	= 2584✓	
	557284✓ $\times 2$	= 1114568
$432 \times 30 + 1$ = 12961 $\times 1$ =	4✓	.. 56000161
	55987200 12961	
<hr/> 56000161 $\times 1$ = 56000161 <hr/>		

$\left. \begin{array}{l} \checkmark \\ \checkmark \end{array} \right\}$ to be added.

$\left. \begin{array}{l} \checkmark \\ \checkmark \end{array} \right\}$ to be added.

I am, Sir, yours respectfully,

SEDIS.

THE MIRACULOUS CABINET.—A Polish gentleman who has set up his tent at the Egyptian Hall, exhibited on the 10th of October, for the first time, a "Miraculous Cabinet," which, although but five feet high, three feet wide, and 13 inches deep, contained 150 large pieces of furniture. These are packed together with such wonderful ingenuity that the title of the cabinet seems fully justified, when they are all taken out and ranged about the room. It would fill an auctioneer's inventory to state the innumerable contents eliminated from the cabinet in the shape of chairs, tables, work-tables, and what-nots, besides a full-sized bed with hangings, and a baby in a swinging cot.

* These Figures are cancelled in the working.

Original Poetry.

Oh! how joyful this bright Christmas morning!
 List! the bells are pealing their cadences,
 And groups of answering people wend their way
 To city or to Nature's fane. Glad hearts,
 Beneath the sunny influence of this morn,
 Like brooklets, break their icy bondage, and
 Come leaping on their natural course again.
 Old England gladdens at the dawn! Those bells—
 Sweet voices like the Siren three,—encharm
 The mind, till thus in reverie I roamed,
 And sang as swallows through the summer sky:—

“Hail! hail! thou Holy day! Thou First of Days!
 Fairest e'er Apollo brought! or rather
 With such effulgence of the bright event
 Illumined, that a transient gleam of light
 Celestial thou seem'st,—the sun outshining,
 And a new born Star inaugurating,
 Which rose on high, the Pole Star of our Hopes.
 Nor wing of Pegasus, nor aid from Jove,
 Invoke I to uplift my mind; for thou
 E'en to the acme of high heaven wilt lead—
 Christ's throne—the loftiest, worthiest scene that man
 Can reach. But lo! He who once thereon sat
 Its brightest gem—not always so—is gone,
 And lies a Babe at Bethlehem.
 See thus the stream of grace divine, forth from
 The veiling type and emblem, issues like
 Some river from o'ershadowing woods, and rolls
 The 'healing of the nations' to ensure.
 Hail! blessed day, that dost remove from e'er
 The cherub sentinels and 'flaming sword'
 From Eden's gate, and mak'st the entrance free,”

The streets were still enpeopled; numbers flocked
 Away to worship God; and, as around
 My mem'ry fluttered still those thoughts—as young
 And untried eagles round their eyrie high;—
 They seemed to whisper in my ear and say,
 “A little child shall lead them” there.

UNKNOWN.

WAIT AWHILE.

CAST a seed into the earth—
 Wait awhile;
 Cheer the little flower's birth
 With a smile;
 Shaker it from wind and storm
 Sweeping by;
 No rude hand let it deform,
 Lest it die:—
 In the summer it shall bloom,
 Fragrant with a rich perfume,
 All your care repaying.

Store with truth an infant's mind—
 Wait awhile;
 Greet the first-fruits that you find
 With a smile;
 Bid it, with truth's flag unfurl'd,
 Move apace;
 In its battles with the world
 Teach it grace :—
 Then, when youthful years have flown,
 See the child to manhood grown,
 God's whole law obeying.

AARON SMITH.

Selections by the Editor.

A PHILOSOPHER IN TROUBLE.—Some years before I was born, a large whale was caught at the Nore, and towed up to London-bridge, the Lord Mayor having claimed it. When it had been at London-bridge some little time, the Government sent a notice to say the whale belonged to them. Upon which the Lord Mayor sent answer, "Well, if the whale belongs to you, I order you to remove it immediately from London-bridge." The whale was therefore towed down stream again to the Isle of Dogs, below Greenwich. The late Mr. Clift, the energetic and talented assistant of his great master, John Hunter, went down to see it. He found it on the shore, with its huge mouth propped open with poles. In his eagerness to examine the internal parts of the mouth, Mr. Clift stepped inside the mouth, between the lower jaws, where the tongue is situated. This tongue is a huge spongy mass, and being at that time exceedingly soft, from exposure to air, gave way like a bog; at the same time he slipped forwards towards the whale's gullet, nearly as far as he could go. Poor Mr. Clift was in a really dangerous predicament; he sank lower and lower into the substance of the tongue and gullet, till he nearly disappeared altogether. It was with great difficulty that a boat-hook was put in requisition, and the good little man hauled out of the whale's tongue.—*Buckland's Curiosities of Natural History.*

AN IMPORTANT RAILWAY LINE.—On the 4th of October the new line of railway between Tchernavoda on the Danube and Kustendje on the Euxine was opened with great success. An English company, started in 1857, obtained permission to construct this line, and they have now nearly completed a permanent way of 40 miles for the sum of £250,000. The line has been projected to facilitate the transport of corn from the fertile basin of the Lower Danube to the Black Sea, and to reduce by three days the time now required for a journey from London to Constantinople.

Notes to Correspondents.

All Communications for the Editor should be addressed "The Editor of the Pupil-Teacher, 54, Paternoster Row, London, E.C."

METHOD OF ASKING OR ANSWERING QUESTIONS.—Our numerous correspondents would save us an immense amount of labour, and be less liable to disappointment from their communications not being promptly attended to, by attention to the following points :—

1. Write *only* on one side of the paper.
2. Keep each subject distinct from others
3. *Head* each subject thus :—"Editor's Council," "Notes and Queries," "Editor's Questions," &c. &c.
4. Leave a space at the top and at the bottom of the paper.

5. Write your (real or assumed) name on each separate paper. 6. Always let your communications be accompanied by your name and address. For publication you may adopt any signature you please.

Thanks.—Aaron Smith; Labournam; J. B. Anderson; Hurdie; A. Priestly; R. Stratton; H. Ross; Ivanhoe; Jack; Maria Everitt; T. Denham; Duorp; J. N. Hobbs; Scheherazade; Floy; Mars; J. E. Walker; J. Popplewell; H. M. Mansell; Mynydd Celyn; Black Robin; G. Mapp; W. G. W.; C. F. Redman; Ellen; Sapere Aude; Apollo; Frank; C. Ashen; Alphonso; Llano; Tet; Mars; Lizzie C.; Spes; E. S. A. M.; Unknown; W. Oakes; The Violet; J. T. Evans.

Received.—Labournam; G. N. Hilder; T. Bowker; Granus Peltronus; Scheherazade; H. M. Mansell; Lionel; R. McAuley; J. Williams; A. Higginbottom; W. G. W.; Harry; Frank; Llano; Tet; Cousin Jack; Mars; Lizzie C.; C. Earle; Urban; Cae bach; J. Dimsdale; G. Whately; P. James; G. M. Sharp; T. H. Twist; Louisæ.

ANSWERS TO CORRESPONDENTS.

Two Years in One (Try).—The Inspectors are rather chary about it. Much depends upon circumstances; for instance—your age, your ability, your duties at the school in which you are engaged, &c.

Short Hand (H. Foote).—We learnt Odell's system many years ago, and afterwards modified it by so many other systems, and by plans of our own, that we can hardly speak decidedly and impartially as to the relative merits of the rival systems. Perhaps some of our friends will favour us with their experience on the subject.

Jane Wharton.—A Wesleyan Methodist wishes for the address of this young lady. We beg to inform him, that we do not give up the name or the address of any correspondent unless by express permission. If Miss Wharton herself writes to us, giving her consent, our Wesleyan Methodist friend shall hear from us; if not, he will of course excuse us. We may as well remark, that if Miss Wharton withholds her sanction, especially as our correspondent does not tell us why he wants her address, no one can blame her.

Partiality (Labournam).—1. Allow us to assure you, that we regard contributions simply on their merits. We have nothing to do with the religious creed of our correspondents. 2. You cannot reasonably expect us to insert your contributions when you forward them in a form contrary to our regulations—regulations which are printed in *every number*. 3. The reason why your question was not answered last month, was simply because your letter did not come to hand until our number was ready for the press. 4. To your question, No. 5, it happened that a contribution of yours was in the hands of the printer at the time you wrote the letter now before us.

SPECIAL NOTICE TO SUBSCRIBERS.

Some of our Subscribers are in arrear with their remittances. We hope they will be prompt in forwarding arrears, with the amount for next year's subscription, as early in December as possible. The Subscription for the PUPIL-TEACHER, post-free for one year, is at the following rates:—

- One copy, post-free, 36 stamps.
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- Four copies, post-free, 8s.
- Six copies, post-free, 12s.

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[Cases for the new volume are now ready, One Shilling each.]

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